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

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

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Executive Summary

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

Objective

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

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

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

9.2.1 General Information (MEng C)

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

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

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

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

Further Submission

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

Further Submission

Programme Objectives.

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

9.2.2 Programme Objectives

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

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

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

- IQY Technical College offers three levels of Engineering Programs

    1. One year Diploma in Engineering
    2. Two years Advanced Diploma in Engineering
    3. Four years Professional Diploma in Engineering which is set at the same level of standard to Bachelor of Engineering degree

- The entry requirement for IQY Technical College is Year 12 . The students who have less than year 12 level education will need to undertake IQY Technical College's Year 11+12 programs which are set at Australian NSW State Year 12 Standard.

- Based on the entry Year 12 standard, Year one to four Academic programs are arranged.

The objectives

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

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

It is designed to provide the following competencies.

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

The training is designed for the students

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

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

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

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

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

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

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

It is designed to provide the following competencies.

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

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

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

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

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

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

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

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

Diploma in Electrical Engineering

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

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

Diploma in Mechanical Engineering

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

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

Diploma in Civil Engineering

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

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

Diploma in Renewable Energy Engineering

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

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

Diploma in Computer Engineering/ Diploma in Information Technology

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

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

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

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

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

It is designed to provide the following competencies.

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

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

Advanced Diploma in Engineering can be studied in the following specializations

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

Advanced Diploma in Electrical Engineering

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

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

Advanced Diploma in Mechanical Engineering

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

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

Advanced Diploma in Civil Engineering

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

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

Advanced Diploma in Renewable Energy Engineering

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

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

Advanced Diploma in Computer Engineering/ Advanced Diploma in Information Technology

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

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

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

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

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

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

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

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

Professional Diploma in Engineering can be studied in the following specializations

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

Professional Diploma in Electrical Engineering

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

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

Professional Diploma in Mechanical Engineering

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

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

Professional Diploma in Civil Engineering

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

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

Professional Diploma in Renewable Energy Engineering

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

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

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

Professional Diploma in Computer Engineering/ Professional Diploma in Information Technology

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

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

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

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

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

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

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

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

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

9.2.3 Learning Outcomes

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

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

1. KNOWLEDGE AND SKILL BASE

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

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

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

1.4. Discernment of knowledge development within the technology domain.

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

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

2. ENGINEERING APPLICATION ABILITY

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

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

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

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

3. PROFESSIONAL AND PERSONAL ATTRIBUTES

3.1. Ethical conduct and professional accountability.

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

3.3. Creative, innovative and pro-active demeanour.

3.4. Professional use and management of information.

3.5. Orderly management of self, and professional conduct.

3.6. Effective team membership and team leadership.

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

COMPETENCIES

1. KNOWLEDGE AND SKILL BASE

1.1. Comprehensive, theory based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the engineering discipline.

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

1.3. In-depth understanding of specialist bodies of knowledge within the engineering discipline.

1.4. Discernment of knowledge development and research directions within the engineering discipline.

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

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

2. ENGINEERING APPLICATION ABILITY

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

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

2.3. Application of systematic engineering synthesis and design processes.

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

3. PROFESSIONAL AND PERSONAL ATTRIBUTES

3.1. Ethical conduct and professional accountability.

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

3.3. Creative, innovative and pro-active demeanour.

3.4. Professional use and management of information.

3.5. Orderly management of self, and professional conduct.

3.6. Effective team membership and team leadership.

Ii how the Learning Outcomes relate to the Programme Objectives.

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

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

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

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

Processes and Results: (MEng C) The programme shall have a clear linkage between Programme Objectives and Learning Outcomes (Section 4.0); a process of ongoing assessment an evaluation that demonstrates the achievement of Programme Objectives with documented results; and evaluation results that are used in the continual improvement of the programme.

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

Program Objective	Learning Outcome
• To be closely familiar with standards and codes of practice, and to become expert in their interpretation and application to a wide variety of situations.	1. KNOWLEDGE AND SKILL BASE 1.1. Systematic, theory based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the technology domain.
• To develop very extensive experience of practical installations, and may well be more knowledgeable than Professional Engineers or Engineering Technologists on detailed aspects of plant and equipment that can contribute very greatly to safety, cost or effectiveness in operation. •	1.2. Conceptual understanding of the, mathematics, numerical analysis, statistics, and computer and information sciences which underpin the technology domain. 1.3. In-depth understanding of specialist bodies of knowledge within the technology domain. 1.4. Discernment of knowledge development within the technology domain. 1.5. Knowledge of engineering design practice and contextual factors impacting the technology domain. 1.6. Understanding of the scope, principles, norms, accountabilities and bounds of sustainable engineering practice in the technology domain.
• To develop high levels of expertise in aspects of design and development processes. These might include, for example, the use of advanced software to perform detailed design of structures,	2. ENGINEERING APPLICATION ABILITY 2.1. Application of established engineering methods to broadly-defined problem solving within the technology domain.

mechanical components and systems, manufacturing or process plant, electrical and electronic equipment, information and communications systems, and so on. • To do the construction of experimental or prototype equipment.	2.2. Application of engineering techniques, tools and resources within the technology domain. 2.3. Application of systematic synthesis and design processes within the technology domain. 2.4. Application of systematic approaches to the conduct and management of projects within the technology domain.
• To develop detailed practical knowledge and experience complementing the broader or more theoretical knowledge of others.	3. PROFESSIONAL AND PERSONAL ATTRIBUTES 3.1. Ethical conduct and professional accountability. 3.2. Effective oral and written communication in professional and lay domains. 3.3. Creative, innovative and pro-active demeanour. 3.4. Professional use and management of information. 3.5. Orderly management of self, and professional conduct. 3.6. Effective team membership and team leadership.

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

Program Objective	Learning Outcome
• to exercise the same breadth of perspective as Professional Engineers, or carry the same wide-ranging responsibilities for stakeholder interactions, for system integration, and for synthesising overall approaches to complex situations and complex engineering problems. • to possess for a strong understanding of practical situations and applications, with the intellectual challenge of keeping abreast of leading-edge developments as a specialist in a technology domain and how these relate to established practice. For this purpose Engineering Technologists need a strong understanding of scientific and engineering principles and a well-developed capacity for analysis. • .	1. KNOWLEDGE AND SKILL BASE 1.1. Systematic, theory based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the technology domain. 1.2. Conceptual understanding of the, mathematics, numerical analysis, statistics, and computer and information sciences which underpin the technology domain. 1.3. In-depth understanding of specialist bodies of knowledge within the technology domain. 1.4. Discernment of knowledge development within the technology domain. 1.5. Knowledge of engineering design practice and contextual factors impacting the technology domain. 1.6. Understanding of the scope, principles, norms, accountabilities and bounds of sustainable engineering practice in the technology domain.
• to apply current and emerging technologies, often in new contexts; or with the application of established principles in the development of new practice. • To contribute to the advancement of technology. • to take responsibility for engineering projects, services, functions and facilities within a technology domain, for specific interactions with other aspects of an overall operating context and for managing	2. ENGINEERING APPLICATION ABILITY 2.1. Application of established engineering methods to broadly-defined problem solving within the technology domain. 2.2. Application of engineering techniques, tools and resources within the technology domain. 2.3. Application of systematic synthesis and design processes within the technology domain. 2.4. Application of systematic approaches to the conduct and management of projects within the technology domain.

• to contribute the specialist work to a broader engineering system or solution. In these roles, Engineering • to focus on sustainable solutions and practices which optimise technical, social, environmental and economic outcomes within the technology domain and over a whole systems life cycle.	
• to have an intimate understanding of the standards and codes of practice that underpin the technology domain and ensure that technology outcomes comply with statutory requirements. Engineering Technologists are required to interact effectively with Professional Engineers and Engineering Associates, with other professionals, tradespersons, clients, stakeholders and society in general, to ensure that technology outcomes and developments fully integrate with the overall system and context. • to ensure that all aspects of a technological product, or operation are soundly based in theory and fundamental principle. • to understand how new developments relate to their specific field of expertise. • to interpret technological possibilities, to investigate interfaces, limitations, consequences, costs and risks	3. PROFESSIONAL AND PERSONAL ATTRIBUTES 3.1. Ethical conduct and professional accountability. 3.2. Effective oral and written communication in professional and lay domains. 3.3. Creative, innovative and pro-active demeanour. 3.4. Professional use and management of information. 3.5. Orderly management of self, and professional conduct. 3.6. Effective team membership and team leadership.

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

Program Objective	Learning Outcome
• To perform the reliable functioning of all materials, components, sub-systems and technologies used; their integration to form a complete, sustainable and self-consistent system; and all interactions between the technical system and the context within which it functions. The latter includes understanding the requirements of clients, wide ranging stakeholders and of society as a whole; working to optimise social, environmental and economic outcomes over the full lifetime of the engineering product or program; interacting effectively with other disciplines, professions and people; and ensuring that the engineering contribution is properly integrated into the totality of the undertaking. • To do interpreting technological possibilities to society, business and government; and for ensuring as far as possible that policy decisions are properly informed by such possibilities and consequences, and that costs, risks and limitations are properly understood as the desirable outcomes.	1. KNOWLEDGE AND SKILL BASE 1.1. Comprehensive, theory based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the engineering discipline. 1.2. Conceptual understanding of the mathematics, numerical analysis, statistics, and computer and information sciences which underpin the engineering discipline. 1.3. In-depth understanding of specialist bodies of knowledge within the engineering discipline. 1.4. Discernment of knowledge development and research directions within the engineering discipline. 1.5. Knowledge of engineering design practice and contextual factors impacting the engineering discipline. 1.6. Understanding of the scope, principles, norms, accountabilities and bounds of sustainable engineering practice in the specific discipline.
• To bring knowledge to bear from multiple sources to develop solutions to complex problems and issues, for ensuring that technical and non-technical considerations are properly integrated, and for managing risk as well as sustainability issues. • To train the students to become predominantly intellectual in nature. In a	2. ENGINEERING APPLICATION ABILITY 2.1. Application of established engineering methods to complex engineering problem solving. 2.2. Fluent application of engineering techniques, tools and resources. 2.3. Application of systematic engineering

technical sense, Professional Engineers are primarily concerned with the advancement of technologies and with the development of new technologies and their applications through innovation, creativity and change. Professional Engineers may conduct research concerned with advancing the science of engineering and with developing new principles and technologies within a broad engineering discipline	synthesis and design processes. 2.4. Application of systematic approaches to the conduct and management of engineering projects.
• To contribute to continual improvement in the practice of engineering, and in devising and updating the codes and standards that govern it. • To take a particular responsibility for ensuring that all aspects of a project are soundly based in theory and fundamental principle, and for understanding clearly how new developments relate to established practice and experience and to other disciplines with which they may interact. One hallmark of a professional is the capacity to break new ground in an informed, responsible and sustainable fashion.	3. PROFESSIONAL AND PERSONAL ATTRIBUTES 3.1. Ethical conduct and professional accountability. 3.2. Effective oral and written communication in professional and lay domains. 3.3. Creative, innovative and pro-active demeanour. 3.4. Professional use and management of information. 3.5. Orderly management of self, and professional conduct. 3.6. Effective team membership and team leadership.

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

Please see Attachment Industry Consultation Folder

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

8.0 Qualifying Requirements and Accreditation Criteria (MEng C)

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

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

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

1 Academic Curriculum

9.2.4 Academic Curriculum

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

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

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

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

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

Program deliver y & assessment at Diploma & Advanced level

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

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

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

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

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

Youtube videos of lectures

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

Online videos

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

Online practical simulation at Level 1 is also provided.

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

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

The sites are

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

&

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

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

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

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

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

Assessment

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

Online Theory & MCQ Practice

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

Online Practical Practice

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

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

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

Program deliver y & assessment at Professional Diploma level

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

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

(MEng C)

Diploma in Electrical Engineering

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

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

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

Advanced Diploma in Electrical Engineering

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

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

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

Professional Diploma in Electrical Engineering

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

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

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

Diploma in Civil Engineering

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

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

Advanced Diploma in Civil Engineering

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

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

Professional Diploma in Civil Engineering

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

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

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

Diploma in Mechanical Engineering

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

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

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

Advanced Diploma in Mechanical Engineering

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

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

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

Professional Diploma in Mechanical Engineering

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

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

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

Criterion 1: Academic Curriculum

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

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

They are based on Year 12 level schooling.

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

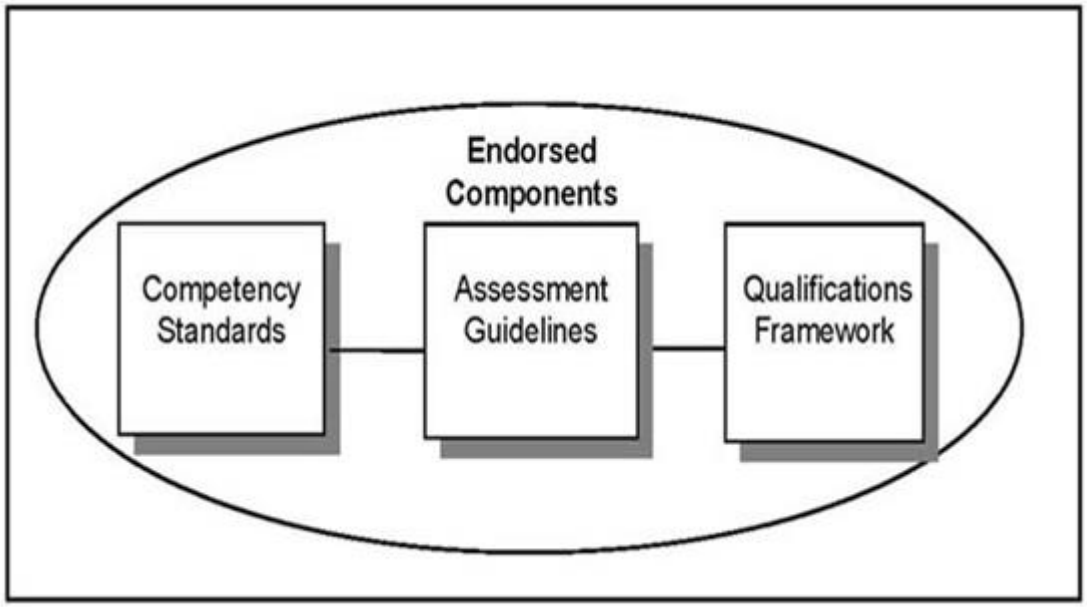
The engineering Industry is subject to high levels of legislation, regulation, codes of practice, guidelines and advisory standards, related to: research, assembly, installation, construction, diagnoses, maintenance, commissioning, programming, testing and repair of networks; systems,

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

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

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

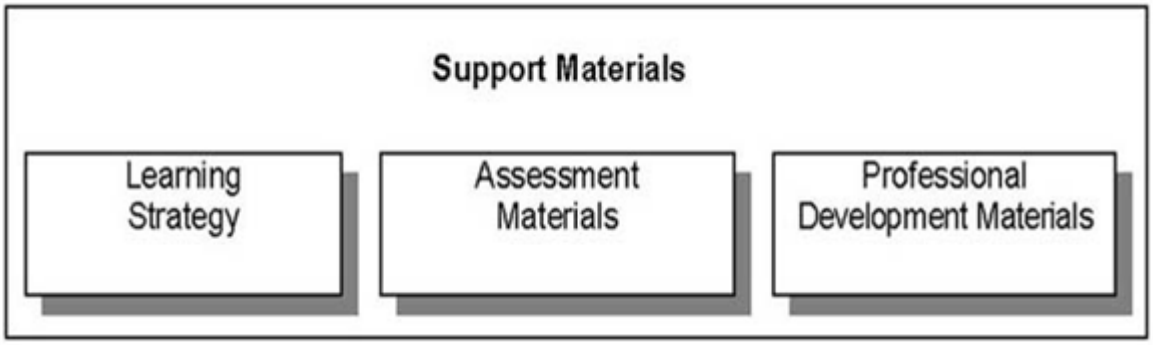
IQY Technical College's Diploma & Advanced Diploma program are largely based on Australian training system that reflect the following structure.



Competency Standards

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

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



The following competency areas are included

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

Language, Literacy, Numeracy

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

Access, Equity and Cultural Diversity

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

Quality Control Aspects

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

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

Certificate (Part 1)

Characteristics of Learning Outcomes

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

- take limited responsibility for the output of others

Certificate (Part 2)

Characteristics of Learning Outcomes

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

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

Diploma

Characteristics of Learning Outcomes

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

Advanced Diploma

Characteristics of Learning Outcomes

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

Professional Diploma

Year 2+3 Learning Outcomes & Teaching /Assessment Strategies

Purpose

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

Knowledge

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

Skills

- Consolidate and extend key academic skills including:

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

Application of Knowledge & Skills

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

Key Verbs

- organise
- integrate
- differentiate, examine
- distinguish
- discuss, elaborate
- calculate
- collaborate
- discover
- critically review

- explain, interpret
- compare, contrast
- summarise, paraphrase
- demonstrate
- cooperate
- use, modify
- organise

Types of assessments

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

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

Year 4 Learning Outcomes & Teaching /Assessment Strategies

Purpose

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

Knowledge

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

Skills

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

Application of Knowledge & Skills

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

Key Verbs

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

- assess, estimate
- investigate, scope

- plan
- convert, translate
- justify, predict
- create, design, compose
- judge, determine, diagnose
- innovate, invent

Types of Assessment

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

Preparation for Professional Engineer Program

Purpose

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

Knowledge

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

Skills

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

Application of knowledge & Skills

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

Key Verbs

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

Types of assessment

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

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

Detailed Contents

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

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

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

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

Course Outlines

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

Diploma Programs (IQY Technical College)

Electrical Engineering Course Outline

Management Course Outline

Information Technology Course Outline

Certificate in Information Technology Course Outline

Diploma in Information Technology Course Outline

Advanced Diploma in Information Technology Course Outline

Mechanical Engineering Course Outline

Civil Engineering Course Outline

Automotive Engineering Course Outline

Marine Engineering Course Outline

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

Professional Diploma+ Bachelor Degree in Electrical Engineering

Professional Diploma+ Bachelor Degree in Civil Engineering

Professional Diploma+ Bachelor Degree in Mechanical Engineering

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

Bachelor of Engineering (Electrical Engineering) Course Outline

Bachelor of Applied Science (Computer Science & Computer Technology)

Bachelor of Engineering (Mechanical Engineering-Mechatronics) Course Outline

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

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

Bachelor of Engineering (Civil) Course outline

Bachelor of Engineering (Mechanical) Course outline

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

Bachelor of Business /Bachelor of Applied Management Course Outline

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

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

Scholarship Application Form for Volunteer Teachers

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

Graduate Diploma of Engineering Practice (Mechanical) Course Outline

Graduate Diploma of Engineering Practice (Civil) Course Outline

Graduate Diploma of Engineering (Electrical+ Electronics) Course Outline

AUSTRALIAN ELECTRICIAN TRAINING

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

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

Master of Management

Master of Science (Engineering) / Master of Engineering

Master of Science (Renewable Energy Engineering)

Learning Outcome/Course/Assessment/ Time Allocation

Diploma in Electrical Engineering Each unit has 1 pt unless stated

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

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

3. PROFESSIONAL AND PERSONAL ATTRIBUTES 3.1. Ethical conduct and professional accountability. 3.2. Effective oral and written communication in professional and lay domains. 3.3. Creative, innovative and pro-active demeanour. 3.4. Professional use and management of information. 3.5. Orderly management of self, and professional conduct. 3.6. Effective team membership and team leadership.	EE120 Electrical Contracting & Specification EE120 Electrical Contracting & Specification	

Advanced Diploma in Electrical Engineering Each unit has 1 pt unless stated

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

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

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

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

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

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

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

Diploma in Civil Engineering Each unit has 2.5 pt unless stated

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

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

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

Advanced Diploma in Civil Engineering Each unit has 2.5 pt unless stated

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

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

3. PROFESSIONAL AND PERSONAL ATTRIBUTES 3.1. Ethical conduct and professional accountability. 3.2. Effective oral and written communication in professional and lay domains. 3.3. Creative, innovative and pro-active demeanour. 3.4. Professional use and management of information. 3.5. Orderly management of self, and professional conduct. 3.6. Effective team membership and team leadership.	CE309 Project Management CE310 Engineering Competency Demonstration Report	

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

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

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

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

Diploma in Mechanical Engineering Each unit has 1.5 pt unless stated

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

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

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

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

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

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

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

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

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

- the choice of the teaching-learning (delivery) methods.
- The curricular approach, the educational content and the teaching-learning
- assessment & evaluation methods for the attainment achievement of the Learning Outcomes. (MEng C)

  Assessment Validation

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

  The folder in the above link contains the assessment validation documents for IQY Technical College 's programs
- A balanced curriculum shall include all technical and non-technical attributes listed in the Learning Outcomes, (the essential elements forming the core of the programme and additional specialist or optional studies (electives). (MEng C)

- The curriculum shall integrate theory with practice through adequate exposure to laboratory work and professional engineering(MEng C)
- Time allocation
- Credit points (The academic programme component must consist of a minimum total of 120 credit (a) A minimum of 80 credit hours shall be engineering courses consisting of engineering sciences and engineering design/projects appropriate to the student's field of study. (MEng C)

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

The following curriculums are prepared to address the above issues

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

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

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

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

Diploma in Engineering

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

Advanced Diploma in Electrical Engineering

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

Professional Diploma in Civil Engineering

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

Curriculum Contents (MEng C)

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

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

The curriculums have been designed to cover the following aspects.

Study Areas (Overview)

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

Detailed contents of the units

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

Electrical Engineering Course Outline

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

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

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

Diploma in Mechanical Engineering

Study Areas

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

Specialized Fields

Automotive Engineering, Marine Engineering

Detailed contents of the units

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

Mechanical Engineering Course Outline

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

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

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

Diploma in Civil Engineering

Study Areas

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

Detailed contents of the units

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

Civil Engineering Course Outline

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

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

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

Diploma in Renewable Energy Engineering

Study Areas

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

Detailed contents of the units

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

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

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

Diploma in Computer Engineering/ Diploma in Information Technology

Study Areas

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

Detailed contents of the units

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

Diploma in Information Technology Course Outline

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

Electrical Engineering Course Outline

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

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

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

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

Advanced Diploma in Engineering can be studied in the following specializations

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

Advanced Diploma in Electrical Engineering

Study Areas

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

Detailed contents of the units

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

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

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

Advanced Diploma in Mechanical Engineering

Study Areas

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

Detailed contents of the units

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

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

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

Advanced Diploma in Civil Engineering

Study Areas

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

Detailed contents of the units

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

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

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

Advanced Diploma in Renewable Energy Engineering

Study Areas

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

Detailed contents of the units

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

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

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

Advanced Diploma in Computer Engineering/ Advanced Diploma in Information Technology

Study Areas

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

Detailed contents of the units

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

Advanced Diploma in Information Technology Course Outline

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

Electrical Engineering Course Outline

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

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

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

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

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

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

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

Professional Diploma in Engineering can be studied in the following specializations

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

Professional Diploma in Electrical Engineering

Study Areas

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

Detailed contents of the units

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

Bachelor of Engineering (Electrical Engineering) Course Outline

http://www.filefactory.com/file/5ftv3w6yjcrn/BACHELOR%20OF%20APPLIED%20ENGINEERING.doc

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

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

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

Professional Diploma in Mechanical Engineering

Study Areas

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

Detailed contents of the units

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

Bachelor of Engineering (Mechanical Engineering-Mechatronics) Course Outline

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

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

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

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

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

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

Professional Diploma in Civil Engineering

Study Areas

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

Detailed contents of the units

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

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

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

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

http://www.filefactory.com/file/37twg21wx97z/Graduate%20Diploma%20of%20Civil%20Engineering%2BB%20App%20Eng%20%28Civil%29%20Course%20Outline.doc

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

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

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

Professional Diploma in Renewable Energy Engineering

Study Areas

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

Detailed contents of the units

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

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

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

Professional Diploma in Computer Engineering/ Professional Diploma in Information Technology

Study Areas

Computer

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

Electrical/Electronics

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

Engineering Competency Demonstration Report Writing

Detailed contents of the units

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

Detailed Contents of BE,B Bus& B App Sc (IT) Programs
http://highlightcomputer.com/B%20E+B%20App%20Sc(IT)+B%20Bus%20Course%20Detailed%20Contents.htm

Bachelor of Engineering (Electrical Engineering) Course Outline

http://www.filefactory.com/file/5ftv3w6yjcrn/BACHELOR%20OF%20APPLIED%20ENGINEERING.doc

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

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

(ii) Engineering applications – projects (MEng C)

Engineering Project Unit

The following llinks contain the evidence of project works

Some students' project works.pdf File

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

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

Practical Training Link Level 3

www.highlightcomputer.com/PracticalCourses.htm

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

Practical Training Link Level 2

Practical Resources

www.highlightcomputer.com/PracticalResources.htm

Physical Resources

www.highlightcomputer.com/PhysicalResources.htm

Learner Resources

www.highlightcomputer.com/LearnerResources.htm

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

+

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

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

Practical Training Link

www.highlightcomputer.com/PracticalCourses.htm

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

(vii) Relevant tutorial class (MEng C)

Online discussion & tutorial forums are arranged

Credit Hours (MEng C)

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

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

One hour per week of lecture

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

Online Lecture + Youtube Lecture

www.highlightcomputer.com/videos2.htm

www.highlightcomputer.com/videos1.htm

Two hours per week of laboratory or workshop lecture

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

www.highlightcomputer.com/PracticalCourses.htm

&

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

Students Area/ Forum

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

Two hours per week of supervised and compulsory tutorial session

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

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

Click HERE to log in the lesson sequences.

Click HERE to log in the online study materials

Click HERE to log in to the Learning Platform

Three hours per week of facilitated activities

This time can be allocated for participation in online forum, reading the learning support CD/DVD, the time to write the assignments & the accumulated time to take part in residential sessions as well as working in the industry.

Industrial Training

- For industrial training, the following guideline shall be followed:
- Industrial training shall be for a minimum of 8 weeks of continuous training. One credit hour is allocated for every two weeks of training subject to a maximum of six credit hours. The training shall be adequately structured, supervised and recored in log book/ record.

The e-Learning Engineering programs are aimed to provide the on-going professional development for the workers in the industry. The work experience recorded are counted for fulfilling the practical training needs to completion the courses.

Final Year Project

- A final year project is subject to a minimum of six credit hours and a maximum of twelve credit

Some students' project works.pdf File

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

The folder in the above link contains the students' project documents related to IQY Technical College 's programs

2 - Students (MEng C)

- Maths+Physics (Remedial)
- Teaching & Learning Environment

9.2.5 Students

- students' performance in relation to Learning Outcomes.
- the requirement and process for admission of students to the programme.
- students' workload.

- iv. Discuss students' activities and involvement in student organisations

The students who need Year 12 level Mathematics & Science are provided with Learning Support online tutorials for Maths & Science at the following link.

http://www.highlightcomputer.com/y712lessons.htm

3 - Academic and Support Staff (MEng C)

- (Postgraduate/ Master degree)
- 9.2.6 Academic and Support Staff
- i. Discuss the strength and competencies of the academic staff in covering all areas of the
- programme.
- ii. Discuss how the overall staff workload enables effective teaching, student-staff interaction,
- student advising and counselling, Technological Institutions and research activities, professional
- development and interaction with industry.
- iii. Discuss the sufficiency and competency of technical and administrative staff in providing
- adequate support to the educational programme.
- iv. The information required in items (i) to (iii) should include but is not limited to the following:
- A breakdown in terms of numbers of academic staff (full-time, part-time and inter-
- programme) by year for the past four years
- An analysis of all academic staff
- academic qualifications of academic staff
- he posts held by full time academic staff
- A summary of teaching workload of academic staff for the current semester
- An analysis of all support staff
- A summary of the posts held by support staff
- The staff: student ratio by year for all academic years for the past four years

The folders in the following links link contains teachers skilled documents of teachers who are teaching the IQY Technical College 's programs

Teacher skilled matrix

http://www.highlightcomputer.com/teacherskillmatrix.htm

Staff list

www.highlightcomputer.com/staff.htm

Staff competency

http://www.highlightcomputer.com/teacherskillmatrix.htm

4 Facilities

- Library

  Quality Management Systems

- controlling, managing, directing, organising and supervising of the overall management system planning, development, delivery and review of engineering programmes

From www.highlightcomputer.com main page, the following online facilities can be accessed by requesting the relevant links.

- Public Library
- Engineering Resources
- Reference Materials & Resources

9.2.7 Facilities

- Discuss the adequacy of teaching and learning facilities such as classrooms, learning-support facilities, study areas, information resources (library), computing and information-technology systems, laboratories and workshops.
- Describe the adequacy of support facilities such as hostels, sport and recreational centres, health centres, student centres, and transport in facilitating students' life on campus and enhancing character building.
- The information required in items (i) to (ii) should be provided in the supporting documents but is not limited to the following:

- A summary, in tabulated form, of the lecture facilities (give number, capacity, and audio video facilities available).
- A summary, in tabulated form, of the laboratories (list down the equipment available in each laboratory).
- A summary, in tabulated form, of the workshops (list down the equipment/machinery available in each workshop).
- A summary, in tabulated form, of the computer laboratories (list down the hardware and software available).
- A summary, in tabulated form, of the other supporting facilities such as the library (list down the titles of books/journals/magazines/standards of relevance to the programme).

From the following link, online practical facilities can be accessed.

Online Practical

Click HERE to log in to the online electrical/ mechanical/civil practical materials. You will need the password.

The password will be issued to the enrolled students.

5 - Quality Management Systems (MEng C)

8.5.2 Programme Quality Management and Planning

- programme planning, curriculum development, and
- regular curriculum and content review must involve all academic staff. The processes include
- reviewing Programme Objectives and Learning Outcomes, tracking the contributions of individual courses to the Learning Outcomes, tracking performance assessment processes, the comments from
- External Examiners, reviewing feedback and inputs from stakeholders including students and alumni.
- The process of continual quality improvement shall be implemented with full accountability. For a new programme,
- External examiner report

8.5.4 Quality Assurance

- Student admission
- Teaching and learning
- Assessment and evaluation which include: examination regulations and criteria for pass/fail
- preparation and moderation processes
- level of assessment
- assessment processes including final year project/industrial training

From the following links, the documents related to Quality Assurance can be accessed.

Online Assessment / Test / Examination/ MCQ link

Online Theory & MCQ Practice

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

Online Practical Practice

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

Assessment

From the following links, the documents related to Assessment can be accessed by clicking the relevant menus

www.highlightcomputer.com/assessment.htm

Menus

- **Assessment Cover Sheet+Asessment Information+Assessment Feedbacksheet**
- **Assessment Mapping**
- **Assessment Validation**
- **Components of Assessment Mapping**
- **Test Questions**
- **Units Evaluated by Students-Joe**
- **CC Currency_Checklist_v2.docx**
- **Evaluation-Joe+Keng Goh.docx**
- **Online MCQ Tests+Marking by Joe.doc**

9.2.8 Quality Management System (MEng C)

- Outline the organisational structure of the Technological Institutions as well as the structure within the faculty/department/programme. Discuss the level and adequacy of institutional support, operating environment, financial resources, constructive leadership, policies mechanisms for attracting, appointing, retaining and rewarding well-qualified staff and provision of professional development, and provision of infrastructure and support services to achieve Programme Objectives and assure continuity of the programme. All relevant policies are to be made available during the visit.

- Discuss the mechanism for the following: programme planning; curriculum development; curriculum , course review and course monitoring; internal audit; management review meeting; responding to feedback and inputs from stakeholders including industry advisors, students and alumni; tracking the contribution of individual courses to the Learning Outcomes; tracking outcomes of performance through assessment; responding to External Examiners comments; reviewing of Programme Objectives and Learning Outcomes; and continual quality improvement. Where these are discussed elsewhere in the report, specify their locations.

- Summarise responses to the external examiner's report.

- Discuss how the quality management system of the Technological Institutions provides quality assurance and benchmark.

- The information required items (i) to (iv) should be provided in the supporting document and is not limited to the following:

As this document provides the development of e-Learning in engineering for small and medium size colleges and institutes where the program planning and management tasks are mainly performed by one or two key staff, for the larger institutions, more complex and wider organizational structure can be designed.

1. Evidence on the participation of academic staff, support staff and students in the continual quality improvement process. (MEng C)

2. Evidence on the development of academic staff through opportunities in further education, industrial exposure, as well as research and development.

3. Policies, internal processes and practices that are in place at all levels within the Technological Institutions relating to the five criteria as stated in Section 9 of this Manual.

4. Evidence of the on-going participation of industry advisors in discussions and forums,

From the following links, the documents related to Assessment Validation & Quality Assurance can be accessed by clicking the relevant menus

Quality Assurance/

http://www.highlightcomputer.com/QualityAssurance.htm

Menus 1

- Audit Documents
- Assessment Validation
- Completed students assessment
- Unit asasessment

Menus 2

1 Assessment Tasks & Related Information

2 Assessment Methods

3 Assessor Guide

4 Assessment Results

5 Assessment Validation

6.StudentsAssessment Information

EKAS-Assessment Validation-EE-OZ+IEAust

9.3 Supporting Material Document – Digital Format (MEng C)

This document is to provide supporting material for the programme in digital format (softcopy) as follows:

9.3.1 Supporting Information

- Provide additional information on the Technological Institutions, faculty/school/department, and programme not provided in the Self-Assessment Report.

9.3.2 Academic and Laboratory Support Staff

- Provide personal file and certificate for each staff member.

Staff file

9.3.3 Programme Structure and Contents

- Provide evidence of the use of tutorials and non-conventional delivery methods such as Problem Based Learning (PBL) techniques alongside traditional lectures. Provide a summary of industrial training schemes, and list of companies involved. Provide evidence of activities relevant to industry exposure.

From the following link, online practical facilities can be accessed.

Online Practical Link

Click HERE to log in to the online electrical/ mechanical/civil practical materials. You will need the password.

The password will be issued to the enrolled students

9.3.4 Equipment, Software and Titles of Books and Journals

- Provide a list of all equipment and software used by the programme including recent additions and planned additions, as well as the titles of books, and journals for the programme.

Physical Resources folder

From the following link, practical resources can be accessed.

Practical Resources

www.highlightcomputer.com/PracticalResources.htm

Physical Resources

www.highlightcomputer.com/PhysicalResources.htm

Learner Resources

www.highlightcomputer.com/LearnerResources.htm

9.3.5 External Examiner and Advisory Board (MEng C)

- Provide the external examiner's reports and reports/minutes from advisory board meetings.

9.4 Institutional Documents and Additional Documentation to be Made Available during the Visit

- The following items, which constitute evidence to support the information requested in Sections 9.2 and 9.3 shall be made available during the visit:

9.4.1 Technological Institutions Documents

- Provide the Handbook, Calendar supplement, or other official publications relating to the faculty/school/department, and containing the statement of programme details; Technological Institutions brochure and any other documents that relate to the faculty/school/department,

9.4.2 Documents Related to Programme Objectives and Outcomes

- Provide all relevant documents and evidence related to Programme Objectives and Learning Outcomes (one copy) as follows:
- Course files – for every course offered by the programme, provide the course information to include the targeted course learning outcomes, course synopsis/syllabus, and a list of references (texts used).
- Final examination papers complete with answer scheme and graded examination papers with low, medium and high grades are also to be provided.
- Any information with regard to other learning activities and assessment measures such as projects, quizzes, tutorial questions, assignments, class projects, copies of the course notes (optional), and any other materials used for the course are also to be included. For laboratory courses,
- Objectives and outcomes assessment instruments – supporting documentation for objectives and
- outcomes assessment including sample questionnaires, portfolios, survey forms, video recordings, etc.
- All evidence related to Continual Quality improvement of the program.

The documents related to above requirements are presented in DVDs and will be available upon request.

DVD Contents

- Mixed DVD Lessons School + Higher Education/ IQY+STCTU Degrees

- Study Guides+Lessons for Adv Dip Eng+Mgt+IT ALL Combined Update Mixed
- Study Guides+Lessons for Bachelor Degree-Common Subjects 1 Mixed
- Students File/ Evidences
- BE Test
- EE Test
- CE Test
- ME Test
- Assessment/
- Assessment Cover Sheet+Asessment Information+Assessment Feedbacksheet
- Assessment Mapping
- Assessment Validation
- Components of Assessment Mapping
- Test Questions
- Unit Evaluation

Self-Assessment Report – Hardcopy (MEng C)

- A Self-Assessment Report is an account of the Technological Institutions' plan, implementation, assessment and evaluation of the programme conducted. It reflects the processes with result obtained used in continual quality improvement at all levels of the programme's activities. This appropriately bound document, ranging between 50 – 100 pages with all pages numbered and a table of contents.

A minimum of 120 credit hours of which 80 credit hours must be core engineering courses offered

over a period of four years(It means 3 rd ,4 th ,5 th ,6 th).

Final year project (minimum 6 credit hours)

Industrial training (minimum of 8 weeks)

The above requirements have been provided in curriculum section

9.4.3 Final Project Reports

- For a sample of students, provide a copy of the final project report, instruction sheets, and grade
- sheets or other means of evaluation for the project.
- Provide the listing of final project titles for the past few years.

From the following links, the students project works can be accessed.

Some students' project works.pdf File

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

9.4.4 Industrial Training Reports (MEng C)

- For a sample of students, provide a copy of the training reports, guidelines for the training, and reviews by the industry sponsors as well as the faculty mentors.

9.4.5 Laboratory Reports

- For a sample of students, provide a copy of the laboratory reports, instruction sheets, and grade sheets or other means of evaluation for the project laboratory report.

From the link below, the above 9.4.4 *& 9.4.5 and the records related to the following points can be accessed.

- Practical participation Record
- Elect Eng Students' taking parts in practicals(Joe).pdf

http://www.highlightcomputer.com/studentstakingpartinpractical.htm

9.4.6 Quality Assurance Records (MEng C)

- Provide minutes and records of action and improvement of meetings of the programme teaching team,

From the link below, records related to the above 9.4.6 can be accessed.

http://www.highlightcomputer.com/QualityAssuranceRecords.htm

ATTACHMENTS

1. Curriculum

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

2. Assessment Validation Records & Assessment Evidences

   www.highlightcomputer.com/assessmentvalidation.htm

   - **Assessment/**
   - **Assessment Cover Sheet+Asessment Information+Assessment Feedbacksheet**
   - **Assessment Mapping**
   - **Assessment Validation**
   - **Components of Assessment Mapping**
   - **Test Questions**
   - **Unit Evaluation**

3. Quality Assurance Records

   http://www.highlightcomputer.com/QualityAssurance.htm

   Teachers Skills Currency Check List

   Students' assessment Evidences

   Units evaluated by students

   Units evaluated by internal & external assessors

4. Practical Resources

   Practical Resources

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

   www.highlightcomputer.com/PracticalResources.htm

5. Students' work Records

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

6. Industrial Consultation

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

7. List of Reference Textbooks utilized in Engineering Programs

http://www.highlightcomputer.com/ReferenceTextBooks.pdf

8. DVD Containing Lesson Materials

   Study Lesson & Reading Materials

   http://www.highlightcomputer.com/studylesson1.htm

   Online Teaching

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

   Public Library

   http://www.highlightcomputer.com/gen1.htm

   Electronic Library

   http://www.highlightcomputer.com/elib.htm

   http://www.filefactory.com/file/7ife2afh5ugr/Gen13Dec2013_htm

   Reference Materials & Resources

   http://www.highlightcomputer.com/usb.htm

   Professional Engineer Support

   http://www.highlightcomputer.com/pesupport.htm

9. DVD Containing Learner Resources

   Physical Resources

   www.highlightcomputer.com/PhysicalResources.htm

   Learner Resources

   www.highlightcomputer.com/LearnerResources.htm

   - Study Guides+Lessons for Adv Dip Eng+Mgt+IT ALL Combined Update Mixed
   - Study Guides+Lessons for Bachelor Degree-Common Subjects 1 Mixed

(A)LECTURES

www.highlightcomputer.com/videos1.htm

www.highlightcomputer.com/videos2.htm

www.iqytechnicalcollege.com/youtubevideos.htm

(B)SELF DIRECTED STUDY GUIDES

http://www.highlightcomputer.com/elearningplatform.htm

ELECTRICAL

(1) Instruction to Electrical Students
http://www.iqytechnicalcollege.com/Instruction-Fiji-Elect Engg.pdf

CIVIL

(1) **Instruction to Civil Students**
http://www.iqytechnicalcollege.com/Instruction Fiji-Civil Engg.pdf

MECHANICAL

(1) Instruction to Mechanical students

http://www.iqytechnicalcollege.com/Instruction-Fiji-MechEngg.pdf

RENEWABLE ENERGY

www.highlightcomputer.com/RELessons.htm

INDUSTRIAL SAFETY & HAZARDOUS PROTECTION

www.highlightcomputer.com/profdiphazardous.htm

(C)TUTORIAL

Online Class Tutoring & Study Lessons

http://www.filefactory.com/file/290j43qtca5r/ClassTutoringLessons.htm

www.highlightcomputer.com/onlineteaching.htm

Study Lessons

- Class Tutoring (Certificate+ Diploma+ Advanced Diploma+ Bachelor Degree) Programs in Electrical, Mechanical, Civil Engineering, Information Technology, Management & E-Business & Management

  http://www.filefactory.com/file/2j8u9ccwrlqx/Class_Tutoring_Lessons_htm

- **Reference Lessons+Study Guides**

  Electrical Diploma

  http://www.filefactory.com/file/2oojs84b3ovx/highlightcomputergroup1_htm

  Electrical Engineering

  http://www.filefactory.com/file/7bdts4v3yi49/Bachelor_of_Applied_Engineering_Electrical_Engineering_Home_htm

  Mechanical Engineering+ Civil Engineering

  http://www.filefactory.com/file/3ud1pk458gqp/highlightcomputergroup5_htm

  Management

  http://www.filefactory.com/file/53f1g058qq1p/highlightcomputergroup2_htm

Information technology

http://www.filefactory.com/file/2q3y5kyc22f1/highlightcomputergroup3_htm

- Electronics Library General Technical Support Program

  http://www.filefactory.com/file/1ulcpeyyjbu5/gtc_htm

  http://www.filefactory.com/file/5vnf7v9rodxd/n/E_Lib_Engg_Book_Catalogue_pdf

- Australian Electrical Trainings

  http://www.filefactory.com/file/7j01gm1ixvej/electricaldiploma2013Update1_htm

10. DVD Containing Assessment Validation & Quality Assurance Materials

Teacher skilled matrix

http://www.highlightcomputer.com/teacherskillmatrix.htm

Staff list

www.highlightcomputer.com/staff.htm

Staff competency

http://www.highlightcomputer.com/teacherskillmatrix.htm

11. DVD Contents

Professional Diploma in Engineering (Electrical, Civil, Mechanical, Building Services,Mechatronics)

Tests /Assignment/Project Assessment Questions & Materials

Test Questions

MECHANICAL

P1240529.JPG (3.26MB)
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http://www.filefactory.com/file/4xp0xqnt8o7j/n/BAE512_Building_Service_Water.doc

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http://www.filefactory.com/file/1t9guppp66y5/n/BAE_614_Machine_Design.doc

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BAE 613 Mech Instrumentation Process Test.pdf (2.65MB)
http://www.filefactory.com/file/53r4fs72o1f/n/BAE_613_Mech_Instrumentation_Process_Test.pdf

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BAE 512 Building Service water & Fluid Supply Test.pdf (6.65MB)
http://www.filefactory.com/file/32yi87dda2yr/n/BAE_512_Building_Service_water_&_Fluid_Supply_Test.pdf

Download now!

BAE 315 Material Engg Test.pdf (7.03MB)
http://www.filefactory.com/file/zzlo7bx6tl9/n/BAE_315_Material_Engg_Test.pdf

Download now!

BAE 511 Air Conditioning refrigeration Heat Transfer Test.pdf (0.27MB)
http://www.filefactory.com/file/2h0bvbjw9vn5/n/BAE_511_Air_Conditioning_refrigeration_Heat_Transfer_Test.pdf

Download now!

BAE 314 Mech power Generation Test.pdf (3.58MB)
http://www.filefactory.com/file/7ivses407cl1/n/BAE_314_Mech_power_Generation_Test.pdf

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BAE 313 Environmental Control Test.pdf (3.6MB)
http://www.filefactory.com/file/4s3gyofo2q9v/n/BAE_313_Environmental_Control_Test.pdf

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BAE 312 Design Engineering Test.pdf (0.38MB)
http://www.filefactory.com/file/24uqzpscjcot/n/BAE_312_Design_Engineering_Test.pdf

Download now!

BAE 311 Vibration Control Test.pdf (1.3MB)
http://www.filefactory.com/file/6cwggpepc9tz/n/BAE_311_Vibration_Control_Test.pdf

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ELECTRICAL

BAE 604 Telecommunication Engineering.pdf (0.42MB)
http://www.filefactory.com/file/2nf488wjyc27/n/BAE_604_Telecommunication_Engineering.pdf

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BAE 607 Radio Wave Propagation.doc (0.02MB)
http://www.filefactory.com/file/5zckxsn1drj/n/BAE_607_Radio_Wave_Propagation.doc

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BAE 606 Building Service Electrical.doc (0.02MB)
http://www.filefactory.com/file/41tubyiy9ab/n/BAE_606_Building_Service_Electrical.doc

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BAE 507 Electro Mech Energy Converstion Test.pdf (3.57MB)
http://www.filefactory.com/file/1dfnbz3fn8qx/n/BAE_507_Electro_Mech_Energy_Conversti on_Test.pdf

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http://www.filefactory.com/file/dbxhi97np5z/n/BAE_401_Adv_Engg_Maths_Test.pdf

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