

## Advanced Diploma in Electrical Engineering and Advanced Diploma in Engineering Technology Study Support Website

[www.iqytechnicalcollege.com/electricaldiploma2023.htm](http://www.iqytechnicalcollege.com/electricaldiploma2023.htm)

UEE62220 Advanced Diploma of Electrical - Engineering

## Advanced Diploma of Electricity Supply Industry Study Support Website

<https://www.iqytechnicalcollege.com/Form71ESILesson.htm>

Diploma Textbooks Part 1

<https://www.highlightcomputer.com/electricaldiploma2018.htm>

Diploma Textbooks Part 2

<https://mega.nz/folder/4ilwRZpZ#sfRekTS81b14n-VaYGNLRO>

Diploma Textbooks Part 3

[https://mega.nz/folder/5P00FRpb#0wyMEo0b\\_QxdPxzMhWV\\_PA](https://mega.nz/folder/5P00FRpb#0wyMEo0b_QxdPxzMhWV_PA)

## Mapping+Assessment for UEE62220+UEE62120

<https://www.iqytechnicalcollege.com/electricaldiploma2022.htm>

**UEE20**

[www.iqytechnicalcollege.com/UEE\\_R6.0.pdf](http://www.iqytechnicalcollege.com/UEE_R6.0.pdf)

**UEE62122**

[www.iqytechnicalcollege.com/UEE62122\\_R2.pdf](http://www.iqytechnicalcollege.com/UEE62122_R2.pdf)

### ALL ASSESSMENTS TASKS

[http://www.iqytechnicalcollege.com/UEE62122\\_Advanced\\_Diploma\\_in\\_Engineering\\_Technology-Electrical+UEE62220\\_Exercises.pdf](http://www.iqytechnicalcollege.com/UEE62122_Advanced_Diploma_in_Engineering_Technology-Electrical+UEE62220_Exercises.pdf)

UEECD0005 Physics

[http://www.iqytechnicalcollege.com/Advanced\\_Diploma\\_in\\_Electrical\\_Engineering\\_UEECD0005\\_Physics\\_Exercises.pdf](http://www.iqytechnicalcollege.com/Advanced_Diploma_in_Electrical_Engineering_UEECD0005_Physics_Exercises.pdf)

### Mapping

UEE62120+UEE62220+UEE30820 Training & Assessment Strategies

<http://www.iqytechnicalcollege.com/Passwordprotect/UEE20%20Assessment%20Streamline.pdf>

UEE62220 Advanced Diploma in Electrical Engineering can be offered by Blended mode  
The students will learn online videos, download the notes and 4 hrs/week to teach them calculations, tutorial and practical.

This online learning site is designed by

### U Kyaw Naing

BE(EP),MSc(EE),MSc(Sc Ed) Curtin, CIV TAE40116 , Graduate Diploma in Adult  
and Vocational Education(TAFE-NSW),EdD(STCTU),Dip VET (TAE50111),Dip Training Systems Design (TAE50211)

CIII Electrical Wiring (TAFE-NSW), Cert of Proficiency(Electrical Fitter)NSW VTT, Craft Cert (Electronic Computer Systems)NSWVTT,

Cert of Proficiency (Engineering), NSWVTT,UEE11 Statement (TAFE-NSW)

Dip Electronics (ICS-USA)

Marine Engineer Cadet Training Certificate (Mechanical)

MIEAust (907788),

Professional Engineer (NSW) 001338

Registered Professional Engineer of Queensland (07661)

NSW Electrician Licence-Qualified Supervisor Certificate (33631S)

(Former Teacher of Electrical Engineering & Electrotechnology-TAFE-NSW)

UK Qualifications

- Incorporated Engineer (Engineering Council-UK)(1995)
- Stage 1 Charter Engineer (Engineering Council-UK)(1998)
- AMIEE (1996)
- MIET (2018)
- AMIMarE (1996)

### Level 1,2,3 Electricians

Level	Tasks	Units/Courses	Our planned training
1	A level 1 electrician is someone who has completed their trade certificate through an apprenticeship or traineeship. They can perform general electrical work and connect overhead or underground services to your home.	UEE30820 CIII Electro-technology Electrician	
2	A level 2 electrician can do everything a level 1 electrician can do plus they can disconnect/reconnect power poles and upgrade your meter box. A level 2 electrician has completed apprenticeship training and is qualified to work on large electrical installations, may supervise level 1 electricians and can design or install multiple circuits and systems. They will also be able to install solar PV systems and EV charging stations.	<p>Advanced Training</p> <p><a href="#">UETDRIS010 – Install and maintain low-voltage overhead services</a></p>	<p><a href="http://www.iqytechnicalcollege.com/OHEquipment.pdf">www.iqytechnicalcollege.com/OHEquipment.pdf</a></p> <p><a href="https://m.youtube.com/watch?v=ubbw0V5bOQM">https://m.youtube.com/watch?v=ubbw0V5bOQM</a></p> <p>UET40421 Certificate IV in ESI - Network Systems</p> <p>UETDRDO001 Inspect overhead poles, structures and electrical apparatus (50)</p> <p>UETDRDO005 Maintain overhead energised low voltage distribution network (60)</p> <p>UET60222 Advanced Diploma of ESI - Power Systems</p> <p>UET60221 Advanced Diploma of ESI - Power Systems</p> <p><a href="http://www.iqytechnicalcollege.com/UET60221AdvancedDiplomaofESI-PowerSystems.htm">http://www.iqytechnicalcollege.com/UET60221AdvancedDiplomaofESI-PowerSystems.htm</a></p> <p>UET40421CIV ESI-Network System</p> <p>UETDRDO004 Maintain energised high voltage distribution overhead</p> <p><a href="http://www.iqytechnicalcollege.com/UET40421CIVESI-NetworkSystem.htm">http://www.iqytechnicalcollege.com/UET40421CIVESI-NetworkSystem.htm</a></p> <p>UET50221 Diploma of ESI - Power Systems</p> <p><a href="http://www.iqytechnicalcollege.com/UET50221DiplomaofESI-PowerSystems.htm">http://www.iqytechnicalcollege.com/UET50221DiplomaofESI-PowerSystems.htm</a></p>
		<p><a href="#">UETDRIS011 – Install and maintain low-voltage underground services</a></p>	<p><a href="http://www.iqytechnicalcollege.com/UGEquipment.pdf">www.iqytechnicalcollege.com/UGEquipment.pdf</a></p> <p><a href="https://youtu.be/RMrshqgw-9M?si=sfcx6y24k_EaT7cp">https://youtu.be/RMrshqgw-9M?si=sfcx6y24k_EaT7cp</a></p> <p><a href="https://youtu.be/Z2ic-8ZI-1I?si=oLC3o2TPUggup7MC">https://youtu.be/Z2ic-8ZI-1I?si=oLC3o2TPUggup7MC</a></p> <p>UET40421 Certificate IV in ESI - Network Systems</p> <p>UETDRDS011 Draft and layout a power system underground</p> <p>UET60221 Advanced Diploma of ESI - Power Systems</p> <p><a href="http://www.iqytechnicalcollege.com/UET60221">http://www.iqytechnicalcollege.com/UET60221</a></p>

			<p><a href="#">Advanced Diploma of ESI - Power Systems.htm</a></p> <p>UET40421CIV ESI-Network System  <a href="http://www.iqytechnicalcollege.com/UET40421CIV-ESI-Network-System.htm">http://www.iqytechnicalcollege.com/UET40421CIV-ESI-Network-System.htm</a></p> <p>UET50221 Diploma of ESI - Power Systems  <a href="http://www.iqytechnicalcollege.com/UET50221-Diploma-of-ESI-Power-Systems.htm">http://www.iqytechnicalcollege.com/UET50221-Diploma-of-ESI-Power-Systems.htm</a></p>
		<p><a href="#">UETDRIS014 – Install and replace energy meters and associated equipment</a></p>	<p>UET50221 Diploma of ESI - Power Systems</p> <p>UETDRTS015 Maintain complex network protection and control systems</p> <p>UET60221 Advanced Diploma of ESI - Power Systems</p> <p>Energy Meter and Associated Equipment  <a href="http://www.iqytechnicalcollege.com/EnergyMetering.htm">www.iqytechnicalcollege.com/EnergyMetering.htm</a></p> <p><a href="http://www.iqytechnicalcollege.com/UET60221-Advanced-Diploma-of-ESI-Power-Systems.htm">http://www.iqytechnicalcollege.com/UET60221-Advanced-Diploma-of-ESI-Power-Systems.htm</a></p> <p>UET40421CIV ESI-Network System  <a href="http://www.iqytechnicalcollege.com/UET40421CIV-ESI-Network-System.htm">http://www.iqytechnicalcollege.com/UET40421CIV-ESI-Network-System.htm</a></p> <p>UET50221 Diploma of ESI - Power Systems  <a href="http://www.iqytechnicalcollege.com/UET50221-Diploma-of-ESI-Power-Systems.htm">http://www.iqytechnicalcollege.com/UET50221-Diploma-of-ESI-Power-Systems.htm</a></p>
<p>3</p>	<p>A level 3 electrician is someone who can do the following tasks</p> <ul style="list-style-type: none"> <li>• Create a plan for the earthing systems for various locations, including switches and overhead earth wires.</li> <li>• Plan the installation of the subsurface service lines to ensure proper operation.</li> <li>• Create new network connections for certain places.</li> <li>• Select the ideal private or public power pole for your property, such as one made of steel or wood.</li> <li>• Plan the placement of the overhead service lines to ensure that they are safely over driveways or other people’s properties, for example.</li> </ul>	<p>who has completed an advanced diploma or higher qualification in electrical engineering. They will be able to install and maintain any electrical system</p>	<p>UEE62220 Advanced Diploma of Electrical Engineering</p> <p>UEE62122 Advanced Diploma of Engineering Technology-Electrical</p> <p>UET60222 Advanced Diploma of ESI - Power Systems</p> <p>UET60221 Advanced Diploma of ESI - Power Systems</p>

	<ul style="list-style-type: none"> <li>• Substation design</li> <li>• Designing and coordinating the relocation and upgrade of street lighting and other electrical assets</li> <li>• Create networks and systems for both indoor and outdoor lighting.</li> <li>• Provide master planning, concept drawings, and applications for electrical supply systems.</li> <li>• Control the changes to the telecommunications networks</li> <li>• For each project, provide an environmental assessment.</li> </ul>	
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## UEE62220 Advanced Diploma of Electrical - Engineering

### Qualification Description

This qualification covers competencies to design and validate/evaluate electrical equipment and systems, manage risk, estimate and manage projects and provide technical advice/sales.

It develops competencies in the ethical and responsible application of mathematics, science, engineering techniques, standards and codes of practice, engineering design practices, supervision and management of physical, human and financial resources in engineering.

The core competencies of this qualification meet the prescribed requirements for Engineering Associate membership of Engineers Australia.

Participants seeking Engineers Australia membership should ensure that their training provider is accredited by that body to provide Engineering Education Programs at the level of Engineering Associate.

No licensing, legislative or certification requirements apply to this qualification at the time of publication.

### Entry Requirements

The entry requirement for this qualification is:

- UEE30820 Certificate III in Electrotechnology Electrician
- or
- a current 'Unrestricted Electricians Licence' or its equivalent issued in an Australian state or territory.

### Packaging Rules

A total of **1320 weighting points** comprising:

**840 core weighting points** listed below; plus

**480 general elective weighting points** from the general elective units listed below.

Choose a total of **480 weighting points** elective units from the list below, of which between **0 and 220 weighting points** can be taken from Group A; between **0 and 60 weighting points** can be taken from Group B; between **0 and 100 weighting points** can be taken from

Group C; between **0 and 60 weighting points** can be taken from Group D; and between **260 and 480 weighting points** can be taken from Group E (or all **480 elective weighting points** can be taken from Group E).

Up to **220 weighting points** of the general elective units Group A, may be selected, with appropriate contextualisation, from any relevant nationally endorsed Training Package or accredited course, provided selected units contribute to the vocational outcome of the qualification. Previously assigned weighting points are listed in the UEE Electrotechnology Training Package Companion Volume Implementation Guide (CVIG), if not listed weighting points will be 10 points, unless directed from the Electrotechnology Industry Reference Committee (IRC).

There are units of competency within this qualification that contain pre-requisites. Units of competency that have a pre-requisite requirement are identified by this symbol \*. Refer directly to the units of competency to identify pre-requisite requirements to ensure all are complied with. A list of all pre-requisites is also provided in the UEE Pre-requisite Companion Volume.

Where imported units are selected, care must be taken to ensure all pre-requisite units specified are complied with.

Core units		Weighting Points
UEECD0017	Establish and follow a competency development plan in an electrotechnology engineering discipline	120
UEECD0003	Apply industry and community standards to engineering activities	20
UEECD0056	Apply methods to maintain currency of industry developments	20

[E083 Electro-technology Competency Development](#)

<http://www.mongroupsydney1.com/E083.pdf>

[E083 Electro-technology Competency Development \(Electronics\)](#)

<http://www.mongroupsydney1.com/E083Electronics.pdf>

UEECD0004	Apply material science to solving electrotechnology engineering problems <u>Materials</u>	60
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[E081 Class Lessons](#)

[E081 Material Science](#)

[Non Metallic Materials](#)

[RE010-Engineering Materials](#)

Day 10 Part 1

[RE010 ENMAT101A Engg Mat Processes1](#)

[RE010 ENMAT101A Engg Mat Processes1A](#)

[RE010 ENMAT101A Engg Mat Processes2](#)

[RE010 ENMAT101A Engg Mat Processes3](#)

[RE010 ENMAT101A Engg Mat Processes](#)

[Day 10 Part 1](#)

[RE010-Engineering Materials](#)

[www.highlightcomputer.com/Day\\_10\\_Part\\_1-RE010-Engineering\\_Materials.zip](http://www.highlightcomputer.com/Day_10_Part_1-RE010-Engineering_Materials.zip)

[Day 10 Part 1](#)

[RE010 Engineering Materials](#)

1 Properties of materials

2 metals

3 polymers

4 thermoplastics  
 5 ceramics  
 6 chemical bonding  
 7 ionic bond  
 8 metallic bond  
 9 covalent bond  
 10 production  
 13 strength  
 15 electrical properties  
 16 thermal properties  
 19 durability  
 20 corrosion resistance  
 22 force extension diagram,  
 23,24 25 carbon steel  
 26 brinell hardness test  
 34 fatigue testing  
 35 safety factor  
 36 casting  
 47 carbon state change diagram, 50  
 64 nickel copper equilibrium diagram 67  
 85, 86 smelting  
 86 steel manufacturing  
 87 electric arc furnacing  
 119,120 heat treatment  
 122 alloying  
 140 induction hardening 159  
 176 polyethylene  
 177 polyvinyl chloride  
 195 hardness test  
 209 ceramic  
 201 glass  
 231 mortar  
 240 matrix materials  
 247 welding  
 266 service requirement 267

**10 RE010-Engineering Materials**  
[www.iqytechnicalcollege.com/RE010.zip](http://www.iqytechnicalcollege.com/RE010.zip)

#### ASSIGNMENT

Page 48 to 61 of  
[www.highlightcomputer.com/BEGeneralREAssignment.pdf](http://www.highlightcomputer.com/BEGeneralREAssignment.pdf)

UEECD0005 Apply physics to solving electrotechnology engineering problems

60

## Foundation Physics

### Physics 1

[Physics-E046 Part 2.zip](#)

[Physics E046 Part 2](#)

[http://highlightcomputergroup4.zoomshare.com/files/PhysicsE046\\_Part\\_2.zip](http://highlightcomputergroup4.zoomshare.com/files/PhysicsE046_Part_2.zip)

E046/ E082

Page 58 to 86 of

[www.highlightcomputer.com/Video Lessons.pdf](http://www.highlightcomputer.com/Video Lessons.pdf)

### **Physics**

**The links contain the following lessons**

E046 Lesson 1-Motion along straight line

<http://youtu.be/rDB2U1Mq-6Q>

E046 Lesson 2-Constant acceleration

<http://youtu.be/QPsYjstzcl>

<http://youtu.be/pr4YL414Bc>

<http://youtu.be/1B7CBmidoVo>

E046 Lesson 3-Vector

<http://youtu.be/YHQ0ITJ5Tc>

E046 Lesson 4-Vector + Force Mass Acceleration

<http://youtu.be/hqhrCG-9XVk>

<http://youtu.be/ENIQ1SODOn0>

E046 Lesson 5-Uniform circular motion

<http://youtu.be/YPXgG59UJE>

	<a href="http://youtu.be/XYI6Kz1kais">http://youtu.be/XYI6Kz1kais</a>	
	E046 Lesson 6-Energy	
	<a href="http://youtu.be/AG3P0UXrFBY">http://youtu.be/AG3P0UXrFBY</a>	
	E046 Lesson 7-Centre of mass	
	<a href="http://youtu.be/EY8rM9MSE1k">http://youtu.be/EY8rM9MSE1k</a>	
	E046 Lesson 8-Rotation	
	<a href="http://youtu.be/-V9f-2h0qNU">http://youtu.be/-V9f-2h0qNU</a>	
	E046 Lesson 9-Kinetic Energy of rotation	
	<a href="http://youtu.be/D7ZsVZ44Nni">http://youtu.be/D7ZsVZ44Nni</a>	
	E046 Lesson 10-Equilibrium	
	<a href="http://youtu.be/YtJmMWJlZgI">http://youtu.be/YtJmMWJlZgI</a>	
	E046 Lesson 11-Fluid	
	<a href="http://youtu.be/hQN2eyQfEeY">http://youtu.be/hQN2eyQfEeY</a>	
	E046 Lesson 12-Thermal expansion	
	<a href="http://youtu.be/EMODmVWSv8k">http://youtu.be/EMODmVWSv8k</a>	
	E046 Lesson 13-Gases	
	<a href="http://youtu.be/NAeTsvVWeJY">http://youtu.be/NAeTsvVWeJY</a>	
	<a href="http://youtu.be/E7B8-ILfLB8">http://youtu.be/E7B8-ILfLB8</a>	
	E046 Lesson 14-Heat temperature wave	
	<a href="http://youtu.be/Th84r-BkLZM">http://youtu.be/Th84r-BkLZM</a>	
	E046 Lesson 15-Harmonic motion	
	<a href="http://youtu.be/c6ku5HnqBsA">http://youtu.be/c6ku5HnqBsA</a>	
	<a href="http://youtu.be/tbEm7vieTMA">http://youtu.be/tbEm7vieTMA</a>	
	E046 Lesson 16-Transverse wave	
	<a href="http://youtu.be/2O6P7A-J3Xgc">http://youtu.be/2O6P7A-J3Xgc</a>	
	E046 Lesson 17-Wave and sound	
	<a href="http://youtu.be/7Xh9QvDwbiw">http://youtu.be/7Xh9QvDwbiw</a>	
	E046 Lesson 18-Light and photon	
	<a href="http://youtu.be/gm5tfHQaF8I">http://youtu.be/gm5tfHQaF8I</a>	
	<a href="http://youtu.be/s5Q5XT-JihE">http://youtu.be/s5Q5XT-JihE</a>	
	E046 Lesson 19-Electric field	
	<a href="http://youtu.be/WlePDh42cXE">http://youtu.be/WlePDh42cXE</a>	
	E046 Lesson 20-Magnetic field	
	<a href="http://youtu.be/Hq1EhUppg85M">http://youtu.be/Hq1EhUppg85M</a>	
	<a href="http://youtu.be/f7ZGb-FhWSO">http://youtu.be/f7ZGb-FhWSO</a>	
	E046 Lesson 21-Faraday law of induction	
	<a href="http://youtu.be/Rj7DeNg_GhA">http://youtu.be/Rj7DeNg_GhA</a>	
	<a href="http://youtu.be/HWZZURK40vl">http://youtu.be/HWZZURK40vl</a>	
	<a href="http://youtu.be/S8kxTHkptU8">http://youtu.be/S8kxTHkptU8</a>	
	E046 Lesson 22-Magnetic deflection+ Atom	
	<a href="http://youtu.be/sUdGmpv6pT4">http://youtu.be/sUdGmpv6pT4</a>	
	<a href="http://youtu.be/rxalu9L0WHjg">http://youtu.be/rxalu9L0WHjg</a>	
	E046 Lesson 23-Nuclear physics principle	
	<a href="http://youtu.be/NHajZLI3Q-I">http://youtu.be/NHajZLI3Q-I</a>	
	<a href="http://youtu.be/h2xG0E3v450">http://youtu.be/h2xG0E3v450</a>	
	E046 Lesson 24-Nuclear spin+ Nuclear activity and decay	
	<a href="http://youtu.be/zsJLSWC_uTM">http://youtu.be/zsJLSWC_uTM</a>	
	E046 Lesson 25-Nuclear model	
	<a href="http://youtu.be/e4NzxFCbrMM">http://youtu.be/e4NzxFCbrMM</a>	
	E046 Lesson 26-Nuclear power generation	
	<a href="http://youtu.be/i2Bf9e9DBI0">http://youtu.be/i2Bf9e9DBI0</a>	
	E046 Lesson 27-Nuclear fusion	
	<a href="http://youtu.be/q-V6APCehOU">http://youtu.be/q-V6APCehOU</a>	
	<a href="http://youtu.be/fth6qfufguU">http://youtu.be/fth6qfufguU</a>	

UEECD0010	Compile and produce an energy sector detailed report	60
	<a href="#">Electrical Report</a>	
	<a href="#">Report Writing</a>	
UEECD0014	Develop design briefs for electrotechnology projects	40
UEEEL0015	Manage large electrical projects*	40
UEEEL0058	Plan large electrical projects*	60

UEECD0026	Manage risk in electrotechnology activities	60
UEECD0059	Write specifications for electrical engineering projects	40
UEECO0003	Manage contract variations ---Group E Unit	

[www.highlightcomputer.com/E01124G069G070Mod.zip](http://www.highlightcomputer.com/E01124G069G070Mod.zip)

[Project+Risk-E011+E017+G070+G069](#)

### Project Specification+ Variation

[E071MEM09004](#)

### Risk Management

[Project Risk Assessment and Management](#)

### Electrical Risk Assessment

[http://www.mongroupsdney1.com/Electrical\\_Risk\\_Assessment.pdf](http://www.mongroupsdney1.com/Electrical_Risk_Assessment.pdf)

[Project Management +Specification Delivery & Assessment Plan](#)

<http://www.mongroupsdney1.com/ProjectManagementSpecificationDeliveryandAssessmentPlan.doc>

### Risk Analysis

[Electrical Specifications](#)

[Engineering Project Management](#)

[Project Slides](#)

### Contract Variation

[Contract Variations \\_ Department of Finance](#)

[Consideration for Variation of Contracts](#)

[Contract Management Guide \\_ Department of Finance](#)

[Australian-government-contract-management-guide-july-2023](#)

[Public Governance, Performance and Accountability Act 2013](#)

[Variations in NSW ABIC Contracts \\_ Homeowners' Comprehensive Guide](#)

[Accountability and Transparency \\_ Department of Finance](#)

E011+E017+ E117+E137

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[www.highlightcomputer.com/Video Lessons.pdf](http://www.highlightcomputer.com/Video Lessons.pdf)

### Risk analysis +OHS Information

<http://www.filefactory.com/file/cf8750b/n/E011+E017.zip>

**The links contain the following lessons**

E011+E017 Lesson 1 Hazards of electricity

<http://youtu.be/u7hZkdSDWxl>

E011+E017 Lesson 2 Low voltage safety

<http://youtu.be/O9C0S5vzpy4>

<http://youtu.be/DILqJf5gNEQ>

<http://youtu.be/8fjcP8MEffl>

E011+E017 Lesson 3 Safety procedure & methods

<http://youtu.be/DRdri7ZJUfw>

E011+E017 Lesson 4 Electrical installation safety

<http://youtu.be/2srZpukbAQw>

E011+E017 Lesson 5 Installation safety

<http://youtu.be/NVBqhdWmeXQ>

E071+G069+G070 + G169+G170

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[www.highlightcomputer.com/Video Lessons.pdf](http://www.highlightcomputer.com/Video%20Lessons.pdf)  
**Project Specifications+ Project Planning**

**The links contain the following lessons**

E071+G069+G070 Lesson 1 Project management planning

<http://youtu.be/VNe56RYAPyg>

E071+G069+G070 Lesson 2 NSW service rule+Marketing

<http://youtu.be/6D88EokTXFA>

<http://youtu.be/tdr9z5WZq2w>

E071+G069+G070 Lesson 3+4 Contract planning + HV conductor

<http://youtu.be/k7vuQq7juNk>

<http://youtu.be/RyS31r1aOWQ>

E071+G069+G070 Lesson 5 Project modelling

<http://youtu.be/7gO57AHY-ik>

<http://youtu.be/lhcVELYNVYw>

E071+G069+G070 Lesson 6 Job planning

[http://youtu.be/QDr6ar\\_ZYmk](http://youtu.be/QDr6ar_ZYmk)

<http://youtu.be/bsBVQFUtGp8>

E071+G069+G070 Lesson 7 Line infrastructure + Material planning

<http://youtu.be/x8-gdp3sP8Q>

E071+G069+G070 Lesson 8 Problem solving and decision making

<http://youtu.be/Khg1pnkBCQo>

E071+G069+G070 Lesson 9 Control of project+Maintenance specialist work

<http://youtu.be/eKuW5um3SR0>

<http://youtu.be/AA684uXyv48>

<http://youtu.be/6NG2Qzq4MMq>

E071+G069+G070 Lesson 10 Contract bid work

<http://youtu.be/4O9nAOmd4Qg>

E071+G069+G070 Lesson 11 Project structure

<http://youtu.be/libpIsnVNG4>

E071+G069+G070 Lesson 12 Analysing plan+ Insurance

<http://youtu.be/x3oQvuAGq8>

<http://youtu.be/dMUAaIQA-4w>

E071+G069+G070 Lesson 13 Modelling project

<http://youtu.be/FJBVypx0vTM>

E071+G069+G070 Lesson 14 Project costing+Contracting paper work

<http://youtu.be/pOke86sLrzw>

<http://youtu.be/2RwrkL0Phb0>

<http://youtu.be/l7nh4pZqnSw>

E071+G069+G070 Lesson 15 Change control

<http://youtu.be/9JR-yJx1D0w>

E071+G069+G070 Lesson 16 Management leadership+Job accounting

<http://youtu.be/EYuy1zKJ72k>

<http://youtu.be/Ay2DyulVvhk>

E071+G069+G070 Lesson 17 Management thinking+Contract management planning

<http://youtu.be/0LzgzKg5hu8>

<http://youtu.be/nrfqVQ7omfk>

UEECD0024 Implement and monitor energy sector WHS policies and procedures

20

## Substation Entry

## Electricity Supply Industry Safety

[UETDREL006](#)

[UETDRRF004](#)

[UETDRRF09](#)

UEECD0036 Provide engineering solutions for problems in complex multiple path circuits

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[Circuit G048+E025.zip](#)

[Circuit G048+E025](#)

[www.highlightcomputer.com/Circuit\\_G048E025G049-Mod.zip](http://www.highlightcomputer.com/Circuit_G048E025G049-Mod.zip)

[Electrical Circuits 1](#)

[Electrical Circuits 2](#)

E025/ G048/ E125

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[www.highlightcomputer.com/Video\\_Lessons.pdf](http://www.highlightcomputer.com/Video_Lessons.pdf)

**Advanced Electrical Circuits**

<http://www.filefactory.com/file/cf8775d/n/E025.zip>

The links contain the following lessons

E025 Lesson 1 Resonance

<http://youtu.be/U16XZnaB4hE>

<http://youtu.be/1cVPmMr93y4>

E025 Lesson 2 Non sinusoidal Circuits

<http://youtu.be/Kq9t-t8DQ8Q>

<http://youtu.be/-LMhXfiMROK>

<http://youtu.be/s5kdChawoDU>

E025 Lesson 3 Pulse Waveform+RC Response

<http://youtu.be/95fJ9lp8fjA>

E025 Lesson 4 Transformer

<http://youtu.be/JJlrc6oTMA>

<http://youtu.be/r5BupGRKPIs>

<http://youtu.be/vKzTkLtuAVo>

E025 Lesson 5 Decibel+Filter

[http://youtu.be/-6WoZ1w9\\_Y](http://youtu.be/-6WoZ1w9_Y)

E025 Lesson 6 Filter+Bode Plot

[http://youtu.be/7R1xj4W\\_gc](http://youtu.be/7R1xj4W_gc)

<http://youtu.be/EXloCpLIual>

**Power circuit analysis**

[G048 Lesson 1 Mesh analysis+Source conversion.zip](#)

Mesh Analysis

<http://youtu.be/MM--ZGqjI8A>

<http://youtu.be/hwFQSLXlcm0>

Source Conversion

<http://youtu.be/xwxbTZeYnJs>

<http://youtu.be/qyZ68VSC8v4>

<http://youtu.be/UdurkaaTqGk>

<http://youtu.be/vYMF-nDwqWM>

[http://youtu.be/\\_2uCwn8BFZ8](http://youtu.be/_2uCwn8BFZ8)

[http://youtu.be/Qwx\\_jPA0oAl](http://youtu.be/Qwx_jPA0oAl)

<http://youtu.be/ZPb8ejKe7Wo>

<http://youtu.be/AVqjZVJfuKY>

[G048 Lesson 2 Thevenin Theorem.zip](#)

<http://youtu.be/oKxZfnFOAgw>

<http://youtu.be/JoZdLTEUoPQ>

[G048 Lesson 3 Nodal Analysis.zip](#)<http://youtu.be/ScYou22hBlc><http://youtu.be/s3Zy2ggfzuY>[G048 Lesson 4 Superposition Theorem.zip](#)<http://youtu.be/iE69o2ftK3U><http://youtu.be/zF99nhpnhGU><http://youtu.be/5lyfyULbrqA>[G048 Lesson 5 AC Network Analysis.zip](#)<http://youtu.be/acETIYaiis0><http://youtu.be/Y2WnzmgF1Ug><http://youtu.be/n-Yj9gGw5uk>[G048 Lesson 6 Transient Circuit.zip](#)<http://youtu.be/MErtK1jW5Ws><http://youtu.be/lKvpSKrDnwQ><http://youtu.be/pzUmVlzL6RU>**The links contain the following lessons**

G048 Lesson 1 Mesh analysis+ Source conversion

G048 Lesson 2 Thevenin Theorem

G048 Lesson 3 Nodal Analysis

G048 Lesson 4 Superposition Theorem

G048 Lesson 5 AC Network Analysis

G048 Lesson 6 Transient Circuit

UEECD0039 Provide solutions to basic engineering computational problems\*

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[www.highlightcomputer.com/Maths1E050G047Mod.zip](http://www.highlightcomputer.com/Maths1E050G047Mod.zip)[www.iqytechnicalcollege.com/Maths\\_2-E026\\_Mod.zip](http://www.iqytechnicalcollege.com/Maths_2-E026_Mod.zip)[Engineering Maths 1](#)[Engineering Maths 2](#)[Engineering Maths Calculus Textbook](#)[Engineering Maths 3](#)[Engineering Maths 4](#)[Foundation Mathematics](#)

E050/E126

Page 87 to 101

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## **Mathematics**

### **E050Part1.zip**

#### **Lesson 1**

<http://youtu.be/67MNUQMIkKw>

<http://youtu.be/GMrOtiVGcSg>

#### **Lesson 2**

<http://youtu.be/GMrOtiVGcSg>

#### **Lesson 3**

<http://youtu.be/3MnPK4HC0oc>

#### **Lesson 4**

<http://youtu.be/4Qiv5gvcxG0>

#### **Lesson 5**

<http://youtu.be/NJFYPLXjNDM>

#### **Lesson 6**

<http://youtu.be/Ejr9Genn5ZM>

### **E050 Lesson 7 Mensuration+Area.zip**

<http://youtu.be/PSdB3-AHZM>

### **E050 Lesson 8 Differentiation.zip**

<http://youtu.be/rLmLY8fj2l8>

[http://youtu.be/VLhQD\\_wrWY8](http://youtu.be/VLhQD_wrWY8)

### **E050 Lesson 9 Integration.zip**

[http://youtu.be/ax\\_k2-qvhpA](http://youtu.be/ax_k2-qvhpA)

### **E050 Lesson 10 Integration of trigo functions.zip**

<http://youtu.be/Xp6RiXES0qg>

### **E050 Lesson 11 Definite integral+Electrical application.zip**

<http://youtu.be/GS26UxVIIPA>

<http://youtu.be/AYXFn88n4yM>

### **E050 Lesson 11 Exercises.zip**

#### **The links contain the following lessons**

E050 Lesson 1 Polynomials  
 E050 Lesson 2 Non linear equations  
 E050 Lesson 3 Logarithmic equation  
 E050 Lesson 4 Circular function  
 E050 Lesson 5 Trigonometric identities  
 E050 Lesson 6 Vector  
 E050 Lesson 7 Mensuration+Area  
 E050 Lesson 8 Differentiation  
 E050 Lesson 9 Integration  
 E050 Lesson 10 Integration of trigo functions  
 E050 Lesson 11 Definite integral+Electrical application  
 E050 Lesson 11 Exercises

E026/E127

Page 26 to 50 of

[www.highlightcomputer.com/Video Lessons.pdf](http://www.highlightcomputer.com/Video%20Lessons.pdf)

## **Engineering Mathematics**

### **E026 Lesson 1 to 5**

#### **The links contain the following lessons**

E026 Lesson 1-Fourier

<https://www.youtube.com/watch?v=QzYO2qCJGNg>

<http://youtu.be/fGL7VYtEBV4>

E026 Lesson 2-Differential equation

<http://youtu.be/RjhgggxG2p0>

E026 Lesson 3-Gamma+Beta Function

[http://youtu.be/D-bUQ1Uyl\\_Y](http://youtu.be/D-bUQ1Uyl_Y)

<http://youtu.be/6rNFJbbqzyl>

E026 Lesson 4-Vector analysis

<http://youtu.be/T9OYT8RpgbA>

E026-Lesson 5-Laplace Transform

**Links**

E026 Harmonic Exercises

<https://www.youtube.com/watch?v=VSdug1mECDE>

**E026 Definite Integral**

<https://www.youtube.com/watch?v=oa127HPNvhA>

**E026 Harmonics**

<https://www.youtube.com/watch?v=yFM7ajxKnXw>

<http://youtu.be/d5drjXEZKv0>

<http://youtu.be/NDUvNSO6il8>

<http://youtu.be/d5drjXEZKv0>

**E026 Multiple Integral**

<http://youtu.be/amV5KiBi0jk>

<http://youtu.be/IAKJvYUTPii>

E026-Lesson 6-Inverse Laplace+ Differential equation solution

[http://youtu.be/yXuIBJel\\_2w](http://youtu.be/yXuIBJel_2w)

<http://youtu.be/SPGeFn2icU0>

<http://youtu.be/4VLHZp6joYg>

<http://youtu.be/bYkyLGd17PU>

<http://youtu.be/GrYcm8FzAMY>

E026-Lesson 7-Matrices

<http://youtu.be/99cNSVx4hgUj>

<http://youtu.be/ztlHu2UYwA5c>

[http://youtu.be/m\\_7oVILNSsl](http://youtu.be/m_7oVILNSsl)

<http://youtu.be/5hq-ZFzdCRI>

E026-Lesson 8 Legendre Function

<http://youtu.be/VWyyjsQ1grs>

E026-Lesson 9 Binomial Theorem+ Partial Differential equation

<http://youtu.be/rNj4dWucl50>

E026-Lesson 10 Multiple Integral

<http://youtu.be/amV5KiBi0jk>

UEECS0033 Use engineering applications software on personal computers

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**.ICT 101+102 Information Technology Fundamentals+ Computer Application**

VIDEO

Day 4 Part 2

ICT 101+102

<https://youtu.be/ckPjeQjh8Os>

**Day 4 Part 2**

ICT 101 Information Technology Fundamentals

Day 4 Part 2 ICT 101+102.mp4 (120.65MB)

[www.highlightcomputer.com/Day\\_4\\_Part\\_2\\_Mgt\\_108\\_Computer\\_Application\\_in\\_Management.zip](http://www.highlightcomputer.com/Day_4_Part_2_Mgt_108_Computer_Application_in_Management.zip)

LESSON

[www.highlightcomputer.com/Mgt108.zip](http://www.highlightcomputer.com/Mgt108.zip)

Day 4 Part 2 ICT 101+102 Information Technology Fundamentals+Computer Application.zip (33.64MB)

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## 2.ICT103 Applied Programming

Day 6 Part 2 ICT103 Applied Programming.zip (5.21MB)

VIDEO

Day 6 Part 2

[ICT1031](#)

[ICT1032](#)

[ICT1033](#)

[Day 6 Part 2](#)

[ICT 103 Applied Programming](#)

[www.highlightcomputer.com/Day 6 Part 2 ICT103 Applied Programming.zip](http://www.highlightcomputer.com/Day 6 Part 2 ICT103 Applied Programming.zip)

## Computer Programming(BAE601-ICT 103+104+204)

LESSON

[www.iqytechnicalcollege.com/BAE601.zip](http://www.iqytechnicalcollege.com/BAE601.zip)

[Exercises Download Link](#)

[www.highlightcomputer.com/DiplCTAssignments.pdf](http://www.highlightcomputer.com/DiplCTAssignments.pdf)

UEEEL0062 Provide engineering solutions to problems in complex polyphase power circuits\*

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[www.highlightcomputer.com/Circuit G048E025G049-Mod.zip](http://www.highlightcomputer.com/Circuit G048E025G049-Mod.zip)

[3 Phase Circuits](#)

G049+G149

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[www.highlightcomputer.com/Video Lessons.pdf](http://www.highlightcomputer.com/Video Lessons.pdf)

[Three phase system](#)

[G049 Lesson 1 Basic three phase circuit.zip](#)

<http://youtu.be/l28eE1Te55U>

[G049 Lesson 2 Three phase star delta.zip](#)

<http://youtu.be/BX3-ht6DWTI>

<http://youtu.be/wJucGbdHII>

[G049 Lesson 3 Three phase power measurement.zip](#)

<http://youtu.be/Q6kbCDGTUAI>

[G049 Lesson 4 Three phase 4 wires unbalanced load.zip](#)

<http://youtu.be/Ptfn5RCjdog>

[G049 Lesson 5 Three phase 3 wires unbalanced load.zip](#)

<http://youtu.be/uDPUhOg5gb8>

[G049 Lesson 6 Three phase power by 2 watt meters.zip](#)

<http://youtu.be/AI6icjMH32c>

[G049 Lesson 7 Three phase fault.zip](#)

[http://youtu.be/lBWl\\_s580yc](http://youtu.be/lBWl_s580yc)

[G049 Lesson 8 Three phase fault calculation table.zip](#)

[http://youtu.be/55ps\\_sdYQ5k](http://youtu.be/55ps_sdYQ5k)

[G049 Lesson 9 Fault calculation.zip](#)

<http://youtu.be/cr-1MR9HHow>

[G049 Lesson 10 Sequence network.zip](#)

<http://youtu.be/Z1MwCBY0SO4>

<http://youtu.be/7epZP1-0his>

**The links contain the following lessons**

G049 Lesson 1 Basic three phase circuit  
 G049 Lesson 2 Three phase star delta  
 G049 Lesson 3 Three phase power measurement  
 G049 Lesson 4 Three phase 4 wires unbalanced load  
 G049 Lesson 5 Three phase 3 wires unbalanced load  
 G049 Lesson 6 Three phase power by 2 watt meters  
 G049 Lesson 7 Three phase fault  
 G049 Lesson 8 Three phase fault calculation table  
 G049 Lesson 9 Fault calculation  
 G049 Lesson 10 Sequence network

UEERE0013 Develop strategies to address environmental and sustainability issues in the energy sector 20

[UEEKEEK142A](#)

[UEEKEEK142A Workbook](#)

[UEENEEK142A Exercises](#)

[K142 Notes](#)

**Group A: Imported and common elective units**

**Weighting  
Points**

**60 Group B: General elective units**

**Weighting  
Points**

UEERE0001 Apply environmentally and sustainable procedures in the energy sector

20

[UEEKEEK142A](#)

[UEEKEEK142A Workbook](#)

[UEENEEK142A Exercises](#)

[K142 Notes](#)

UETDRIS033 Solve problems in network protection\*

40

[AE.zip](#)

[www.highlightcomputer.com/G015-AE Mod.zip](http://www.highlightcomputer.com/G015-AE_Mod.zip)

IS69

[AG.zip](#)

[www.highlightcomputer.com/G015-AG Mod.zip](http://www.highlightcomputer.com/G015-AG_Mod.zip)

[A010.zip](#)

[www.highlightcomputer.com/A010Mod.zip](http://www.highlightcomputer.com/A010Mod.zip)

[Power system 2-G037+G038+G039.zip](#)

[Power System 2 G037+G038+G039](#)

**[Power System Protection](#)**

[G015\(AE\)Lesson 1-Power system protection scheme.zip](#)

<http://youtu.be/lhpd3cDAhBU>

<http://youtu.be/EGXkLRM2L9M>

<http://youtu.be/zOIUYQ7OJfs>

[G015\(AE\)Lesson 2-Differential relay.zip](#)

<http://youtu.be/2iW0oEScMsw>

[G015\(AE\)Lesson 3-Over current & earth fault protection.zip](#)

<http://youtu.be/hvGjdO9jEhk>

[G015\(AE\)Lesson 4-Three phase differential relay.zip](#)

<http://youtu.be/2iW0oEScMsw>

<http://youtu.be/VuziXkRx4UI>

<http://youtu.be/2iW0oEScMsw>

[G015\(AE\)Lesson 5-Current time grading.zip](#)

<http://youtu.be/r0qkLmkKsM>

G015AE Lesson 6

[http://youtu.be/InsTLh7\\_N5k](http://youtu.be/InsTLh7_N5k)

[G015\(AE\)Lesson 7-CT\\_PT.zip](#)

[http://youtu.be/ZF\\_y65xsM\\_M](http://youtu.be/ZF_y65xsM_M)

[G015\(AE\)Lesson 8-Distance relay.zip](#)

<http://youtu.be/NKzMVquFLu8>

[G015\(AE\)Lesson 9-Telecom in power protection.zip](#)

<http://youtu.be/9C6gggZAKRg>

[http://youtu.be/XRpfA6hU\\_U](http://youtu.be/XRpfA6hU_U)

<http://youtu.be/X-kz3cyl9fU>

Concurrently with

UETDREL005 Work safely in the vicinity of live electrical apparatus

## UETDRIS032 Solve problems in network equipment

[AA.zip](#)

[www.highlightcomputer.com/G015-AA Mod.zip](http://www.highlightcomputer.com/G015-AA%20Mod.zip)

G015/ IS67+68+ IS74

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[Power System \(1\)](#)

[G015\(AA\)Lesson 1-Distribution system.zip](#)

<http://youtu.be/VuzjXkRx4UJ>

[G015\(AA\)Lesson 2-Demand factor.zip](#)

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<http://youtu.be/DCCL4cO3Vu8>

[G015\(AA\)Lesson 3-Sag.zip](#)

<http://youtu.be/1s496h-luu8>

[G015\(AA\)Lesson 4-OH Line mechanical design.zip](#)

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[http://youtu.be/hu1TrUv2\\_OY](http://youtu.be/hu1TrUv2_OY)

[G015\(AA\)Lesson 5-UG Cable.zip](#)

<http://youtu.be/hHCLzMNvmT0>

<http://youtu.be/A5AieaBBZHo>

[G015\(AA\)Lesson 6-Voltage control.zip](#)

<http://youtu.be/y1vTM5fvyU>

<http://youtu.be/Z9HBGsVgymA>

[G015\(AE\)Lesson 1-Power system protection scheme.zip](#)

<http://youtu.be/iHpd3cDAhBU>

<http://youtu.be/EGXkLrM2L9M>

<http://youtu.be/zOUIYQ7OJfs>

[G015\(AE\)Lesson 2-Differential relay.zip](#)

<http://youtu.be/2iW0oEScMsw>

[G015\(AE\)Lesson 3-Over current & earth fault protection.zip](#)

<http://youtu.be/hvGjdO9jEhk>

[G015\(AE\)Lesson 4-Three phase differential relay.zip](#)

<http://youtu.be/2iW0oEScMsw>

<http://youtu.be/VuzjXkRx4UJ>

<http://youtu.be/2iW0oEScMsw>

[G015\(AE\)Lesson 5-Current time grading.zip](#)

<http://youtu.be/r0gkLrmkKsM>

G015AE Lesson 6

[http://youtu.be/InsTLh7\\_N5k](http://youtu.be/InsTLh7_N5k)

[G015\(AE\)Lesson 7-CT\\_PT.zip](#)

[http://youtu.be/ZF\\_y65xsM\\_M](http://youtu.be/ZF_y65xsM_M)

[G015\(AE\)Lesson 8-Distance relay.zip](#)

<http://youtu.be/NKzMVquFLu8>

[http://www.filefactory.com/file/c386a2e/n/G015\\_AE\\_Lesson\\_8-Distance\\_relay.zip](http://www.filefactory.com/file/c386a2e/n/G015_AE_Lesson_8-Distance_relay.zip)

[G015\(AE\)Lesson 9-Telecom in power protection.zip](#)

<http://youtu.be/9C6gqgZAKRg>

[http://youtu.be/XRRpfA6hU\\_U](http://youtu.be/XRRpfA6hU_U)

[http://youtu.be/X-kz3cyl\\_9fU](http://youtu.be/X-kz3cyl_9fU)

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<http://youtu.be/A-tXH4rK4M>

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[G015\(AG\)Lesson 4-IP based system.zip](#)

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[G015\(AG\)Lesson 5-Surge in power system.zip](#)

<http://youtu.be/6WkezTcOzX4>

[G015\(AG\)Lesson 6-CTPT Harmonic filter.zip](#)

<http://youtu.be/Uy7q9SsaOYs>

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[G015\(AG\)Lesson 8-Corona.zip](#)

<http://youtu.be/XYGRAWQqzsc>

[G015\(AG\)Lesson 9-Power surge.zip](#)

<http://youtu.be/uzFS-otIn-g>

[http://youtu.be/IsZ\\_ccy630w](http://youtu.be/IsZ_ccy630w)

[G015\(AG\)Lesson 10-Static Var Compensation.zip](#)

<http://youtu.be/y-of5oLqjCU>

[G015\(AG\)Lesson 11-PF Control+Fuel cell.zip](#)

<http://youtu.be/AXbCcoQeLns>

[G015\(AG\)Lesson 12-Exercises.zip](#)

<http://youtu.be/nRGScOH9aSM>

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G015(AA)Lesson 1-Distribution system  
 G015(AA)Lesson 2-Demand factor  
 G015(AA)Lesson 3-Sag  
 G015(AA)Lesson 4-OH Line mechanical design  
 G015(AA)Lesson 5-UG Cable  
 G015(AA)Lesson 6-Voltage control  
 G015(AE)Lesson 1-Power system protection scheme  
 G015(AE)Lesson 2-Differential relay  
 G015(AE)Lesson 3-Over current & earth fault protection  
 G015(AE)Lesson 4-Three phase differential relay  
 G015(AE)Lesson 5-Current time grading  
 G015(AE)Lesson 6-Instrumentation transformer  
 G015(AE)Lesson 7-CT PT  
 G015(AE)Lesson 8-Distance relay  
 G015(AE)Lesson 9-Telecom in power protection  
 G015(AG)Lesson 1-Stability  
 G015(AG)Lesson 2-Generator load sharing  
 G015(AG)Lesson 3-Power Flow  
 G015(AG)Lesson 4-IP based system  
 G015(AG)Lesson 5-Surge in power system  
 G015(AG)Lesson 6-CTPT Harmonic filter  
 G015(AG)Lesson 7-Short circuit in alternator  
 G015(AG)Lesson 8-Corona  
 G015(AG)Lesson 9-Power surge  
 G015(AG)Lesson 10-Static Var Compensation  
 G015(AG)Lesson 11-PF Control+Fuel cell

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UETDREL005 Work safely in the vicinity of live electrical apparatus

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[Power System \(2\)](#)

[G037+G038+G039 Lesson 1-Power Flow.zip](#)

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[G037+G038+G039 Lesson 2-Site Earthing.zip](#)

<http://youtu.be/PATkXVBF9kc>

<http://youtu.be/H4Dj1K238BE>

[G037+G038+G039 Lesson 3-Power System Control Equipments.zip](#)

<http://youtu.be/JJczbYVVOaj>

[G037+G038+G039 Lesson 4-Auxiliary System+Harmonic.zip](#)

<http://youtu.be/5mDNHGFLA0c>

[G037+G038+G039 Lesson 5-Harmonic.zip](#)

<http://youtu.be/n41q4Rmz2p0>

<http://youtu.be/8CelGV5AEIk>

[G037+G038+G039 Lesson 9-Insulator.zip](#)

<http://youtu.be/l4jgs8MLBFA>

<http://youtu.be/TiQezIA9Z-c>

UETDRIS032 Solve problems in network equipment

#### 100 Group C: General elective units

#### Weighting Points

UEEIC0040 Solve problems in polyphase electronic power control circuits\*

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UEEIC0042 Solve problems in single phase electronic power control circuits\*

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[http://highlightcomputergroup4.zoomshare.com/files/Power\\_Electronics\\_H025H026\\_Mod.zip](http://highlightcomputergroup4.zoomshare.com/files/Power_Electronics_H025H026_Mod.zip)

[Power Electronics H025+H026](#)

[H025 Operational Amplifier.pdf](#)

<b>H unit</b>	<b>Analogue Electronics</b>
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[Analog 1](#)

[Analog 2](#)

[Power Control Electronics 1](#)

[Power Control Electronics 2](#)

[Power Control Electronics 3](#)

[Power Control Electronics 4](#)

[DC Power supplies](#)

[H011 Lesson 1 DC Power supply principle.zip](#)

<http://youtu.be/S1no7ZshUwA>

[H011 Lesson 2 Load regulation.zip](#)

<http://youtu.be/9yCpkrbJdtQ>

[H011 Lesson 3 Current limiter.zip](#)

<http://youtu.be/rV2cEqYot74>

<http://youtu.be/gy9TXslvE1E>

**The links contain the following lessons**

- H011 Lesson 1 DC Power supply principle
- H011 Lesson 2 Load regulation
- H011 Lesson 3 Current limiter

H013

Page 378 to 386 of [www.highlightcomputer.com/Video Lessons.pdf](http://www.highlightcomputer.com/Video%20Lessons.pdf)

**Amplifier**

[H013 Lesson 1 Amplifier model.zip](#)

<http://youtu.be/3kZUZrXyftwo>

[H013 Lesson 2 Amplifier biasing.zip](#)

<http://youtu.be/Xk34pnOlgZ4>

[http://youtu.be/QGGw2\\_K38BY](http://youtu.be/QGGw2_K38BY)

[H013 Lesson 3 Amplifier configuration.zip](#)

<http://youtu.be/PmGrqK94xks>

[H013 Lesson 4 Amplifier parameters.zip](#)

<http://youtu.be/6CivoozCPu4>

<http://youtu.be/R8TouJw6OA>

[H013 Lesson 5 JFET.zip](#)

<http://youtu.be/XW1bcn99zZ0>

<http://youtu.be/yb-qM5jE0Oc>

**The links contain the following lessons**

- H013 Lesson 1 Amplifier model
- H013 Lesson 2 Amplifier biasing
- H013 Lesson 3 Amplifier configuration
- H013 Lesson 4 Amplifier parameters
- H013 Lesson 5 JFET

**Power Electronics I**


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**Operational amplifier+ single phase power control equipments**

[H025 Lesson 1-Differential Amplifier.zip](#)

[http://youtu.be/ad\\_3bdF0zds](http://youtu.be/ad_3bdF0zds)

<http://youtu.be/O5in0xvmPQ>

[H025 Lesson 2-Comparator.zip](#)

<http://youtu.be/pePuiim3kqKQ>

[H025 Lesson 3-Timer IC.zip](#)<http://youtu.be/KMaFzaoUm4><http://youtu.be/CbUWCd6fP9A>[H025 Lesson 4-Op Amp Circuit 1 & 2.zip](#)<http://youtu.be/wl-jVz30LSc>[http://youtu.be/b8pjTG9Om\\_w](http://youtu.be/b8pjTG9Om_w)[H025 Lesson 5-Op amp characteristics+Band widthe compensation.zip](#)[http://youtu.be/1t6fdXK5i\\_0](http://youtu.be/1t6fdXK5i_0)<http://youtu.be/Htq19FqAxSA>[H025 Lesson 6-Op amp diode characteristics.zip](#)<http://youtu.be/uHkiUpemhPs>[H025 Lesson 7-Sine & square wave oscillators.zip](#)<http://youtu.be/IOWhEW2THxw>[H025 Lesson 8-Op amp ckt-Integrator+Differentiator.zip](#)<http://youtu.be/3GFksg5MYUU>[H025 Lesson 9-Active filter.zip](#)<http://youtu.be/VedHWINE60Q>[H025 Lesson 10-Multistage Op amp ckt.zip](#)<http://youtu.be/SpHOroXrQf0>[http://youtu.be/\\_GQzAZw15oM](http://youtu.be/_GQzAZw15oM)<http://youtu.be/TAwRmz298iM>[H025 Lesson 11-Transducers.zip](#)<http://youtu.be/ojsZNB0oX3U><http://youtu.be/7vAOB8pNXhQ>[H025 Lesson 12-Introduction to control.zip](#)<http://youtu.be/dr1kfiNW0TFc>**The links contain the following lessons**

H025 Lesson 1-Differential Amplifier

H025 Lesson 2-Comparator

- H025 Lesson 3-Timer IC
- H025 Lesson 4-Op Amp Circuit 1 & 2
- H025 Lesson 5-Op amp characteristics+ Band width compensation
- H025 Lesson 6-Op amp diode characteristics
- H025 Lesson 7-Sine & square wave oscillators
- H025 Lesson 8-Op amp ckt-Integrator+ Differentiator
- H025 Lesson 9-Active filter
- H025 Lesson 10-Multistage Op amp ckt
- H025 Lesson 11-Transducers
- H025 Lesson 12-Introduction to control

**Power Electronics II**

	<a href="#"><u>Electro-mechanical Control</u></a>
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H026+ H & I units in UEE11

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[www.highlightcomputer.com/Video Lessons.pdf](http://www.highlightcomputer.com/Video%20Lessons.pdf)

**Three phase power control equipments**

[H026 Lesson 1-Single &Three phase power control.zip](#)

<http://youtu.be/fUOI0e4Tdr4>

<http://youtu.be/J6Ba7ZPFn90>

<http://youtu.be/fl-3zOB9V7k>

[H026 Lesson 2-Solid state switching devices.zip](#)

<http://youtu.be/FTqNg42TLLw>

[H026 Lesson 3-Inverter Converter.zip](#)

<http://youtu.be/pLbqreYVIsY>

<http://youtu.be/DfmCM7ZwWFg>

[H026 Lesson 4-Power Diodes.zip](#)

<http://youtu.be/64tr-u8R3Ok>

[H026 Lesson 5-AC Motor speed control.zip](#)

<http://youtu.be/CcNiMMiGpRI>

[H026 Lesson 6-Current fed inverter.zip](#)

<http://youtu.be/3eJSleyBf7w>

<http://youtu.be/98GMAawYME>

**The links contain the following lessons**

- H026 Lesson 1-Single &Three phase power control
- H026 Lesson 2-Solid state switching devices
- H026 Lesson 3-Inverter Converter
- H026 Lesson 4-Power Diodes
- H026 Lesson 5-AC Motor speed control
- H026 Lesson 6-Current fed inverter

**Analogue Electronics**

	<a href="#"><u>Analogue Electronics</u></a>
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H045+ H & I units in UEE11

UEE1114A		Troubleshoot resonance circuits in an electronic apparatus
UEE11147A		Assess electronic apparatus compliance

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[www.highlightcomputer.com/Video Lessons.pdf](http://www.highlightcomputer.com/Video%20Lessons.pdf)

### Analogue Electronics

#### H045 Lesson 1 Op-amp.zip

<http://youtu.be/Z5WuKH6IKQE>

<http://youtu.be/mDmxHibHJC8>

#### H045 Lesson 2 DC Non idealities.zip

<http://youtu.be/rmmW34QubIU>

<http://youtu.be/BbDgNgd13ek>

<http://youtu.be/RYJilQ32RhY>

#### H045 Lesson 3 Bias compensation.zip

<http://youtu.be/QYzuMasWWbg>

#### H045 Lesson 4 Slew rate.zip

<http://youtu.be/NERLYuZYVv0>

#### H045 Lesson 5 AC Noise.zip

<http://youtu.be/XZKFddOSPTg>

#### H045 Lesson 6 Source noise resistance.zip

[http://youtu.be/3\\_08GpV4P-w](http://youtu.be/3_08GpV4P-w)

#### H045 Lesson 7 Signal to noise ratio.zip

[http://youtu.be/\\_pT6i7qYUQU](http://youtu.be/_pT6i7qYUQU)

<http://youtu.be/u7iIW7Os-Mc>

#### H045 Lesson 8 Frequency compensation.zip

<http://youtu.be/rHz2fwkDPNw>

[http://www.filefactory.com/file/c39ce16/n/H045\\_Lesson\\_8\\_Frequency\\_compensation.zip](http://www.filefactory.com/file/c39ce16/n/H045_Lesson_8_Frequency_compensation.zip)

#### H045 Lesson 9 Stability analysis.zip

<http://youtu.be/wuqrGy-eHD4>

#### H045 Lesson 10 Feedforward compensation.zip

<http://youtu.be/XmHxvyCL-Zw>

<http://youtu.be/PS4TLDPL9Gj>

#### **The links contain the following lessons**

H045 Lesson 1 Op-amp  
H045 Lesson 2 DC Non idealities  
H045 Lesson 3 Bias compensation  
H045 Lesson 4 Slew rate  
H045 Lesson 5 AC Noise  
H045 Lesson 6 Source noise resistance  
H045 Lesson 7 Signal to noise ratio  
H045 Lesson 8 Frequency compensation  
H045 Lesson 9 Stability analysis  
H045 Lesson 10 Feedforward compensation

**60 Group D: General elective units****Weighting  
Points**

UETDRIS027 Diagnose and resolve faults in transmission systems\*

60

[www.highlightcomputer.com/G042.Mod.zip](http://www.highlightcomputer.com/G042.Mod.zip)[Transmission line-G042.zip](#)[Power Transmission 1](#)[Power Transmission 2](#)Page 285 to 307 of  
[www.highlightcomputer.com/Video Lessons.pdf](http://www.highlightcomputer.com/Video%20Lessons.pdf)[Transmission Line](#)[G042 Lesson 1-Transmission line introduction.zip](#)<http://youtu.be/DrOQgcKeaL4>[G042 Lesson 2-DC Line+Line reflection.zip](#)<http://youtu.be/jyVdecp-clk>[G042 Lesson 3-Power line calculation.zip](#)<http://youtu.be/3TgVt67DhyY><http://youtu.be/QT6aqaM7a0><http://youtu.be/WxjQlkdJjQ8>[G042 Lesson 4-Line model+Economic aspect.zip](#)<http://youtu.be/1HRdGZXp-w>[G042 Lesson 5-Time value of money+Line reflection.zip](#)<http://youtu.be/n9mupLQWANY><http://youtu.be/YdfiX2gJ-3c>[G042 Lesson 6-Line matching+Wave guide.zip](#)[http://youtu.be/1Wyp5\\_Cek40](http://youtu.be/1Wyp5_Cek40)[G042 Lesson 7-Wave guide.zip](#)<http://youtu.be/BuGjz3QBxk><http://youtu.be/pftevsnb0w>[G042 Lesson 8-Microstrip line.zip](#)<http://youtu.be/elNq1kKuiec>

[G042 Lesson 9-Per unit value of line.zip](#)<http://youtu.be/66Y-Lm3EntI>[G042 Lesson 10-Line constants.zip](#)<http://youtu.be/2XYnZZ-zXII>[G042 Lesson 11-Smith chart.zip](#)<http://youtu.be/dv-NQh4vIrg><http://youtu.be/KfM8XZd9Wqc><http://youtu.be/3NYVQvW8-Nk><http://youtu.be/5qBwLsbftTA>[http://youtu.be/ViamcvqAy\\_I](http://youtu.be/ViamcvqAy_I)[http://youtu.be/j\\_nx9n7mGec](http://youtu.be/j_nx9n7mGec)<http://youtu.be/d53B3-zV2ec>[G042 Lesson 12-Four terminals network.zip](#)<http://youtu.be/HCO4P1qrPbA>[G042 Lesson 13-Exercises.zip](#)<http://youtu.be/LeyJf1PhpCY>**The links contain the following lessons**

G042 Lesson 1-Transmission line introduction  
G042 Lesson 2-DC Line+Line reflection  
G042 Lesson 3-Power line calculation  
G042 Lesson 4-Line model+Economic aspect  
G042 Lesson 5-Time value of money+Line reflection  
G042 Lesson 6-Line matching+Wave guide  
G042 Lesson 7-Wave guide  
G042 Lesson 8-Microstrip line  
G042 Lesson 9-Per unit value of line  
G042 Lesson 10-Line constants  
G042 Lesson 11-Smith chart  
G042 Lesson 12-Four terminals network  
G042 Lesson 13-Exercises

Concurrently with

**UETDRIS026 Diagnose and resolve faults in electrical apparatus****[G037+G038+G039 Lesson 3-Power System Control Equipments.zip](#)**<http://youtu.be/JJczbYVWOoI>**[G037+G038+G039 Lesson 4-Auxiliary System+Harmonic.zip](#)**<http://youtu.be/5mDNHGFLA0c>**[G037+G038+G039 Lesson 5-Harmonic.zip](#)**<http://youtu.be/n41q4Rmz2p0><http://youtu.be/8CeIGV5AEIk>[http://www.filefactory.com/file/c386dbc/n/G037+G038+G039\\_Lesson\\_5-Harmonic.zip](http://www.filefactory.com/file/c386dbc/n/G037+G038+G039_Lesson_5-Harmonic.zip)**[G037+G038+G039 Lesson 6-Harmonic Calculation.zip](#)**<http://youtu.be/NHSzu6HkQqI><http://youtu.be/fSLrPIC6Mho>[http://www.filefactory.com/file/c39bd4a/n/G037\\_G038\\_G039\\_Lesson\\_6-Harmonic\\_Calculation.zip](http://www.filefactory.com/file/c39bd4a/n/G037_G038_G039_Lesson_6-Harmonic_Calculation.zip)**[G037+G038+G039 Lesson 7-Synchronous Generator Loading.zip](#)**<http://youtu.be/fy1q7Mtq7Gs>[http://www.filefactory.com/file/c39be2f/n/G037\\_G038\\_G039\\_Lesson\\_7-Synchronous\\_Generator\\_Loading.zip](http://www.filefactory.com/file/c39be2f/n/G037_G038_G039_Lesson_7-Synchronous_Generator_Loading.zip)**[G037+G038+G039 Lesson 8-Turbine Control+Power Line Earthing.zip](#)**<http://youtu.be/0CvgkmDE3Kw>**[G037+G038+G039 Lesson 9-Insulator.zip](#)**<http://youtu.be/l4jgs8MLBFA><http://youtu.be/TiQezIA9Z-c>**[G037+G038+G039 Lesson 10-Reliability of Power System.zip](#)**<http://youtu.be/tlUk3nc1xE>**[G037+G038+G039 Lesson 11-Harmonic Reduction.zip](#)**<http://youtu.be/8dYX-11kRcc><http://youtu.be/A684Agej8-w>**[G037+G038+G039 Lesson 12-Grounding + Power Quality.zip](#)**<http://youtu.be/QQPUj3WXJnA>**[G037+G038+G039 Lesson 13-Power Quality.zip](#)**[http://youtu.be/fel7SCb\\_QTY](http://youtu.be/fel7SCb_QTY)<http://youtu.be/mck2YhDsnr0>**[G037+G038+G039 Lesson 14-Harmonic Model.zip](#)**<http://youtu.be/dwWBOq-BsLY>**[G037+G038+G039 Lesson 15-Harmonic Losses in Transformer.zip](#)**<http://youtu.be/mwEJqEEgPvc><http://youtu.be/1A6FY5f5ijM><http://youtu.be/yLiOKy7uJi0>**[G037+G038+G039 Lesson 16-Reliability Improvement.zip](#)**<http://youtu.be/cn-CfDwnUN8>**[G037+G038+G039 Lesson 17-Preparation for emergency.zip](#)**<http://youtu.be/La7Xip8Gl2I>**[G037+G038+G039 Lesson 18-Harmonic problems.zip](#)**<http://youtu.be/0Urnkee>[http://youtu.be/zM\\_Xowckicw](http://youtu.be/zM_Xowckicw)**[G037+G038+G039 Lesson 19-Synchronous machine problems.zip](#)**<http://youtu.be/Lx2S-NATr20>**[G037+G038+G039 Lesson 20-Power Generation + Generator Control.zip](#)**<http://youtu.be/56Ks8sArQxc>**[G037+G038+G039 Lesson 21-Turbine Control+ Digital Excitation.zip](#)**<http://youtu.be/uCsvv18gKwQ><http://youtu.be/l4vCDI2CZS0>**[G037+G038+G039 Lesson 22-Power System Protection.zip](#)**<http://youtu.be/c6iXRwfCYBU>

**G037+G038+G039 Lesson 23-Switch Gear.zip**<http://youtu.be/DDpbzqNYTtM><http://youtu.be/2ei-nCdBNrc>**The links contain the following lessons**

G037+G038+G039 Lesson 1-Power Flow  
G037+G038+G039 Lesson 2-Site Earthing  
G037+G038+G039 Lesson 3-Power System Control Equipments  
G037+G038+G039 Lesson 4-Auxiliary System+ Harmonic  
G037+G038+G039 Lesson 5-Harmonic  
G037+G038+G039 Lesson 6-Harmonic Calculation  
G037+G038+G039 Lesson 7-Synchronous Generator Loading  
G037+G038+G039 Lesson 8-Turbine Control+ Power Line Earthing  
G037+G038+G039 Lesson 9-Insulator  
G037+G038+G039 Lesson 10-Reliability of Power System  
G037+G038+G039 Lesson 11-Harmonic Reduction  
G037+G038+G039 Lesson 12-Grounding + Power Quality  
G037+G038+G039 Lesson 13-Power Quality  
G037+G038+G039 Lesson 14-Harmonic Model  
G037+G038+G039 Lesson 15-Harmonic Losses in Transformer  
G037+G038+G039 Lesson 16-Reliability Improvement  
G037+G038+G039 Lesson 17-Preparation for emergency  
G037+G038+G039 Lesson 18-Harmonic problems  
G037+G038+G039 Lesson 19-Synchronous machine problems  
G037+G038+G039 Lesson 20-Power Generation + Generator Control  
G037+G038+G039 Lesson 21-Turbine Control+ Digital Excitation  
G037+G038+G039 Lesson 22-Power System Protection  
G037+G038+G039 Lesson 23-Switch Gear

[G015\(AE\)Lesson 1-Power system protection scheme.zip](#)

<http://youtu.be/ihpd3cDAhBU>  
<http://youtu.be/EGXkLRM2L9M>  
<http://youtu.be/zOUIUYQ7OJfs>

[G015\(AE\)Lesson 2-Differential relay.zip](#)

<http://youtu.be/2iW0oEScMsw>

[G015\(AE\)Lesson 3-Over current & earth fault protection.zip](#)

<http://youtu.be/hvGjdO9jEhk>

[G015\(AE\)Lesson 4-Three phase differential relay.zip](#)

<http://youtu.be/2iW0oEScMsw>  
<http://youtu.be/VuziXkRx4UJ>  
<http://youtu.be/2iW0oEScMsw>

[G015\(AE\)Lesson 5-Current time grading.zip](#)

<http://youtu.be/r0gkLrmkKsM>

G015AE Lesson 6

[http://youtu.be/InsTLh7\\_N5k](http://youtu.be/InsTLh7_N5k)

[G015\(AE\)Lesson 7-CT\\_PT.zip](#)

[http://youtu.be/ZF\\_y65xsM\\_M](http://youtu.be/ZF_y65xsM_M)

[G015\(AE\)Lesson 8-Distance relay.zip](#)

<http://youtu.be/NKzMVquFLu8>

[http://www.filefactory.com/file/c386a2e/n/G015\\_AE\\_Lesson\\_8-Distance\\_relay.zip](http://www.filefactory.com/file/c386a2e/n/G015_AE_Lesson_8-Distance_relay.zip)

[G015\(AE\)Lesson 9-Telecom in power protection.zip](#)

<http://youtu.be/9C6gqgZAKRg>  
[http://youtu.be/XRpfA6hU\\_U](http://youtu.be/XRpfA6hU_U)  
[http://youtu.be/X-kz3cyl\\_9fU](http://youtu.be/X-kz3cyl_9fU)

[G015\(AG\)Lesson 1-Stability.zip](#)

<http://youtu.be/fUyNgcXtBXg>

[G015\(AG\)Lesson 2-Generator load sharing.zip](#)

<http://youtu.be/A-tXH4rK4M>

[http://youtu.be/OtSis\\_KIRuk](http://youtu.be/OtSis_KIRuk)

<http://youtu.be/8j1nD9nY2hU>

[G015\(AG\)Lesson 3-Power Flow.zip](#)

<http://youtu.be/0OzT4Pol-Jc>

[http://youtu.be/fK0wcaTY\\_rw](http://youtu.be/fK0wcaTY_rw)

[http://www.filefactory.com/file/c386bf4/n/G015\\_AG\\_Lesson\\_3-Power\\_Flow.zip](http://www.filefactory.com/file/c386bf4/n/G015_AG_Lesson_3-Power_Flow.zip)

[G015\(AG\)Lesson 4-IP based system.zip](#)

<http://youtu.be/ve5O8K9fl7k>

[http://www.filefactory.com/file/c386b23/n/G015\(AG\)Lesson\\_4-IP\\_based\\_system.zip](http://www.filefactory.com/file/c386b23/n/G015(AG)Lesson_4-IP_based_system.zip)

[G015\(AG\)Lesson 5-Surge in power system.zip](#)

<http://youtu.be/6WkezTcOzX4>

[G015\(AG\)Lesson 6-CTPT Harmonic filter.zip](#)

<http://youtu.be/Uy7q9SsaOYs>

[G015\(AG\)Lesson 7-Short circuit in alternator.zip](#)

<http://youtu.be/b-46Kvn8kJI>

[G015\(AG\)Lesson 8-Corona.zip](#)

<http://youtu.be/XYGRAWQqzsc>

[G015\(AG\)Lesson 9-Power surge.zip](#)

<http://youtu.be/uzFS-otln-q>

[http://youtu.be/lSz\\_ccy630w](http://youtu.be/lSz_ccy630w)

[G015\(AG\)Lesson 10-Static Var Compensation.zip](#)

<http://youtu.be/y-of5oLqjCU>

[G015\(AG\)Lesson 11-PF Control+Fuel cell.zip](#)

<http://youtu.be/AXbCcoQeLns>

[G015\(AG\)Lesson 12-Exercises.zip](#)

<http://youtu.be/nRGScOH9aSM>

**Group E: General elective units****Weighting Points**

UEECD0049 Use advanced computational processes to provide solutions to energy sector engineering problems\*

80

**BAE401 Advanced Engineering Mathematics**

**VIDEO**

Day 3 Part 1A

[Advanced Engineering Mathematics 1](#)

Day 3 Part 1B

[Advanced Engineering Mathematics 2](#)**1 BAE401****Day 3 Part1-BAE 401 Advanced Engineering**<https://www.youtube.com/watch?v=AQXY1Fnn1z8&feature=youtu.be><https://youtu.be/U3h3QDQ9iLg>[https://www.youtube.com/watch?v=KWAXk8\\_p2DM&feature=youtu.be](https://www.youtube.com/watch?v=KWAXk8_p2DM&feature=youtu.be)[https://www.youtube.com/watch?v=0x\\_1VsW5Ski&feature=youtu.be](https://www.youtube.com/watch?v=0x_1VsW5Ski&feature=youtu.be)<https://www.youtube.com/watch?v=1-h-mAj-EGY&feature=youtu.be><https://www.youtube.com/watch?v=sDKADly33FY&feature=youtu.be>**PART 1**

Lesson 1

<https://youtu.be/m8SldiNA0Y>

Lesson 2

<https://youtu.be/OCb6epyScjI>

Lesson 3

<https://youtu.be/WfvIRjJ2LdY>

Lesson 4

<https://youtu.be/mlYoGPvIFxY>

Lesson 5

<https://youtu.be/Q-K0boh2Lx8>

Lesson 6

<https://youtu.be/y9QwvCk9myk>

Lesson 7

<https://youtu.be/vme5UW7YoSg>

Lesson 8

[https://youtu.be/tN15\\_wPSKsU](https://youtu.be/tN15_wPSKsU)

Lesson 9

<https://youtu.be/81NPY6ft8Mk>

Lesson 10

<https://youtu.be/jZE5IhCx4eI>

Lesson 11

<https://youtu.be/K3BzsXP4V4M>

Lesson 12

<https://youtu.be/G8zfWBPVF8w>

Lesson 13

<https://youtu.be/uPnfgrubLKA>

Lesson 14

<https://youtu.be/IaF1Io1im-4>

Lesson 15

<https://youtu.be/MPbdvKxIJms>

Lesson 16

<https://youtu.be/hyK5GyIBdOc>

Lesson 17

<https://youtu.be/KR-tUYDtFbc>

Lesson 18

<https://youtu.be/NT7mDclDVYM>

Lesson 19

<https://youtu.be/untfzioLUyg>

Lesson 20

<https://youtu.be/ohSol2b5IPg>

Lesson 21

<https://youtu.be/XwONIZBsvUs>

Lesson 22

<https://youtu.be/VTsCMZNVRe4>

## **PART 2**

Lesson 1

<https://youtu.be/UhUQI7AtJL4>

Lesson 2

<https://youtu.be/njKvo8fQtaQ>

Lesson 3

[https://youtu.be/CR1IR\\_7IUo](https://youtu.be/CR1IR_7IUo)

Lesson 4

[https://youtu.be/\\_p\\_o2FEixEA](https://youtu.be/_p_o2FEixEA)

Lesson 5

<https://youtu.be/OP2y8891eak>

Lesson 6

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

Lesson 7

<https://youtu.be/gX344-b9lxE>

Lesson 8

[https://youtu.be/O3K5wg\\_gsR0](https://youtu.be/O3K5wg_gsR0)

Lesson 9

<https://youtu.be/tBPjkrKFicK>

Lesson 10+11

<https://youtu.be/H9PIsC2WoOw>

Lesson 12

<https://youtu.be/29FTLz5upUM>

<https://youtu.be/91-cnEQXzsg>

Lesson 13

<https://youtu.be/KqQCfbXpAqI>

Lesson 14

<https://youtu.be/wgQRSiiKxmo>

Lesson 15

<https://youtu.be/7sHj03dkcx8>

Lesson 16

<https://youtu.be/jBRjKf-AkBO>

Lesson 17

<https://youtu.be/WbsB--fQhOg>

Lesson 18

<https://youtu.be/tbSIIVOS0x8>

Lesson 19

<https://youtu.be/THmHatViXog>

Lesson 20

<https://youtu.be/TXurSoYl3v0>

Lesson 21

<https://youtu.be/1h1ukQHTukw>

Lesson 22

<https://youtu.be/TBGK9bC1eB8>

### **PART 3**

Lesson 1

<https://youtu.be/sSFCpKbJfBw>

Lesson 2

[https://youtu.be/-eagr\\_ici1E](https://youtu.be/-eagr_ici1E)

Lesson 3

<https://youtu.be/w0CAAX3Dn9M>

Lesson 4

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

Lesson 5

[https://youtu.be/Q\\_7ex\\_fCz3Y](https://youtu.be/Q_7ex_fCz3Y)

Lesson 6

<https://youtu.be/qUKEY127d30>

Lesson 7

<https://youtu.be/4upGNpkjaQ8>

Lesson 8

<https://youtu.be/72yq3vHCPLk>

Lesson 9

<https://youtu.be/rEwSTi2fTAQ>

Lesson 10

<https://youtu.be/r83f0EnuWDs>

Lesson 11

<https://youtu.be/uy0tENidLuo>

Lesson 12 to 17

<https://youtu.be/cCHXL6N91PE>

Lesson 18

<https://youtu.be/H5aweVxqcO8>

Lesson 19

<https://youtu.be/02JDRasu60Q>

Lesson 20

<https://youtu.be/eiNf9W1RVF4>

**Day 3 Part 1(A)**

[www.highlightcomputer.com/Day 3 Part1-BAE 401 Advanced Engineering Mathematics.zip](http://www.highlightcomputer.com/Day%203%20Part1-BAE%20401%20Advanced%20Engineering%20Mathematics.zip)

**LESSON NOTES**

**1 BAE 401 Advanced Engineering Mathematics**

[www.iqytechnicalcollege.com/BAE401.zip](http://www.iqytechnicalcollege.com/BAE401.zip)

UEEEL0043	Develop engineering solutions for induction machine and control problems*	60
UEEIC0016	Diagnose and rectify faults in a.c. motor drive systems*	60

[http://www.highlightcomputer.com/Elect Machine-G043G044G045 Mod.zip](http://www.highlightcomputer.com/Elect%20Machine-G043G044G045%20Mod.zip)

[http://highlightcomputergroup4.zoomshare.com/files/G043\\_G045\\_Part\\_1.zip](http://highlightcomputergroup4.zoomshare.com/files/G043_G045_Part_1.zip)

**G043+G045 Part 1**

[http://highlightcomputergroup4.zoomshare.com/files/G043\\_G045\\_Part\\_2.zip](http://highlightcomputergroup4.zoomshare.com/files/G043_G045_Part_2.zip)

**G043+G045 Part 2**

[http://highlightcomputergroup4.zoomshare.com/files/G044\\_G010.zip](http://highlightcomputergroup4.zoomshare.com/files/G044_G010.zip)

AC Machines 1

AC Machines 2

G043+G045+ G143+145+l145

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[www.highlightcomputer.com/Video Lessons.pdf](http://www.highlightcomputer.com/Video%20Lessons.pdf)

**Induction and synchronous machines & control**

[G043+G045 Lesson 1 AC Machine Introduction.zip](http://www.highlightcomputer.com/G043+G045%20Lesson%201%20AC%20Machine%20Introduction.zip)

<http://youtu.be/-Wf0PhNDn8>

[G043+G045 Lesson 2 Slip+Equivalent Ckt.zip](http://www.highlightcomputer.com/G043+G045%20Lesson%202%20Slip+Equivalent%20Ckt.zip)

<http://youtu.be/De79cbk2EOQ>

<http://youtu.be/gprZTitiOac>

[G043+G045 Lesson 3 Power Transfer.zip](http://www.highlightcomputer.com/G043+G045%20Lesson%203%20Power%20Transfer.zip)

<http://youtu.be/pCMcMPBrUEE>

<http://youtu.be/7UjDuG5SQc>

<http://youtu.be/dV9VFsXeFnY>

[G043+G045 Lesson 4 Test for equivalent ckt.zip](http://www.highlightcomputer.com/G043+G045%20Lesson%204%20Test%20for%20equivalent%20ckt.zip)

<http://youtu.be/HF4bJ6vWX2c>

[G043+G045 Lesson 5 Equivalent Ckt Problems.zip](#)[http://youtu.be/PyPQsw0L\\_o0](http://youtu.be/PyPQsw0L_o0)[http://youtu.be/f8VbD\\_APNfk](http://youtu.be/f8VbD_APNfk)<http://youtu.be/SRQLC5hkoc0>[G043+G045 Lesson 6 Motor starting and control.zip](#)<http://youtu.be/Utfbs7Ti6M><http://youtu.be/VnNlesPqeZk><http://youtu.be/AM070oGS2Fs><http://youtu.be/FQVMCMDSTwo>[G043+G045 Lesson 7 Synchronous machine introduction.zip](#)<http://youtu.be/KM9TJcr2MBk>[G043+G045 Lesson 8 Synchronous machine ckt problems.zip](#)[http://youtu.be/ZGsmZfl\\_iPoc](http://youtu.be/ZGsmZfl_iPoc)<http://youtu.be/bnpYxKtSz1c>[G043+G045 Lesson 9 Synchronous machine starting.zip](#)<http://youtu.be/p4x03LkgBc8><http://youtu.be/yKmnWaxT2Hk>[G043+G045 Lesson 10 Single phase motor.zip](#)<http://youtu.be/9QgmEb0tFpE>[G043+G045 Lesson 11 Factors affecting motor operation.zip](#)<http://youtu.be/sAgyhDlpwwY>**The links contain the following lessons**

G043+G045 Lesson 1 AC Machine Introduction  
 G043+G045 Lesson 2 Slip+Equivalent Ckt  
 G043+G045 Lesson 3 Power Transfer  
 G043+G045 Lesson 4 Test for equivalent ckt  
 G043+G045 Lesson 5 Equivalent Ckt Problems  
 G043+G045 Lesson 6 Motor starting and control  
 G043+G045 Lesson 7 Synchronous machine introduction  
 G043+G045 Lesson 8 Synchronous machine ckt problems  
 G043+G045 Lesson 9 Synchronous machine starting  
 G043+G045 Lesson 10 Single phase motor  
 G043+G045 Lesson 11 Factors affecting motor operation

UEEIC0017 Diagnose and rectify faults in d.c. motor drive systems\*

[DC Machines 1](#)[DC Machines 2](#)

60

### DC Machines 3

G044+G144+I146

Page 330 to 343 of

[www.highlightcomputer.com/Video Lessons.pdf](http://www.highlightcomputer.com/Video%20Lessons.pdf)

#### DC Machine and control

[G044 Lesson 1 DC Machine Principle.zip](#)

[http://youtu.be/-jAtAH\\_Ny94](http://youtu.be/-jAtAH_Ny94)

[G044 Lesson 2 DC Winding +Armature reaction.zip](#)

<http://youtu.be/SYx2SSmMKIE>

<http://youtu.be/YtTPpjiUYI>

[G044 Lesson 3 Factors affecting speed & direction of rotation.zip](#)

<http://youtu.be/9-7wsKVrhIs>

[http://youtu.be/O\\_uo2H5RfIc](http://youtu.be/O_uo2H5RfIc)

<http://youtu.be/QaabA5pmB9E>

[G044 Lesson 4 Torque speed relation.zip](#)

<http://youtu.be/NsBiqxreBOA>

[G044 Lesson 5 Losses & efficiency of DC machine.zip](#)

<http://youtu.be/2sHkCIBWfW>

[http://youtu.be/hZAJl\\_3oUxMM](http://youtu.be/hZAJl_3oUxMM)

[G044 Lesson 6 Machine temperature rise.zip](#)

<http://youtu.be/h8PNG21p-p4>

[http://youtu.be/Cq0V4DR\\_2wE](http://youtu.be/Cq0V4DR_2wE)

[G044 Lesson 7 DC motor control.zip](#)

<http://youtu.be/XUjdfx-gtF0>

[G044 Lesson 8 Duty cycle+DC motor starter.zip](#)

<http://youtu.be/bhQf-hurKMI>

[G044 Lesson 9 DC motor speed control.zip](#)

<http://youtu.be/kRfoWS3ujdE>

[http://youtu.be/R\\_0LDkQEAHU](http://youtu.be/R_0LDkQEAHU)

#### **The links contain the following lessons**

G044 Lesson 1 DC Machine Principle

G044 Lesson 2 DC Winding +Armature reaction

G044 Lesson 3 Factors affecting speed & direction of rotation

G044 Lesson 4 Torque speed relation

G044 Lesson 5 Losses & efficiency of DC machine

G044 Lesson 6 Machine temperature rise

G044 Lesson 7 DC motor control

G044 Lesson 8 Duty cycle+DC motor starter

G044 Lesson 9 DC motor speed control

Click [HERE](#) to download the Exercises

[http://www.mongroupsydney1.com/Advanced\\_Diploma\\_in\\_Electrical\\_Engineering\\_Exercises\\_EE011.pdf](http://www.mongroupsydney1.com/Advanced_Diploma_in_Electrical_Engineering_Exercises_EE011.pdf)

Physics+ Advanced Power System Exercise

G037+38+39+E046 Video Lesson Exercises.pdf (0.46MB)

Click [HERE](#) to download the exercises

[Material Science Tutorial](#)

**(3)DOWNLOAD LINK FOR PRACTICAL**

Click [HERE](#) to download the all engineering practicals

## UEE62120 Advanced Diploma of Engineering Technology-Electrical

### Qualification Description

This qualification covers competencies to design and validate/evaluate electrical equipment and systems and provide technical advice/sales.

No licensing, legislative or certification requirements apply to this qualification at the time of publication.

### Entry Requirements

There are no entry requirements for this qualification

### Packaging Rules

A total of **2160 weighting points** comprising:

**1460 core weighting points** listed below; **plus**

**700 general elective weighting points** from the general elective units listed below.

Choose a total of **700 weighting points** elective units from the list below, of which between 0 and **360 weighting points** can be taken from Group A; between 0 and **160 weighting points** can be taken from Group B; between 0 and **220 weighting points** can be taken from Group C; between 0 and **220 weighting points** can be taken from Group D; and between 200 and **700 weighting points** can be taken from Group E (or all 700 elective **weighting points** can be taken from Group E).

**Up to 360 weighting points of the general elective units Group A**, may be selected, with appropriate contextualisation, from any relevant nationally endorsed Training Package or accredited course, provided selected units contribute to the vocational outcome of the qualification. Previously assigned weighting points are listed in the UEE Electrotechnology Training package Companion Volume Implementation Guide (CVIG), if not listed weighting points will be 10 points, unless directed from the Electrotechnology Industry Reference Committee (IRC).

There are units of competency within this qualification that contain pre-requisites. Units of competency that have a pre-requisite requirement are identified by this symbol \*. Refer directly to the units of competency to identify pre-requisite requirements to ensure all are complied with. A list of all pre-requisites is also provided in the UEE Pre-requisite Companion Volume.

Where imported units are selected, care must be taken to ensure all pre-requisite units specified are complied with.

For the following units, follow the link

[www.iqytechnicalcollege.com/electricaltrade2022.htm](http://www.iqytechnicalcollege.com/electricaltrade2022.htm)

Core units	Weighting Points
UEECD0007 Apply work health and safety regulations, codes and practices in the workplace <a href="#">UEENEEE101A</a> (UEECD0007 Apply work health and safety codes and practices in the workplace)	20
UEECD0016 Document and apply measures to control WHS risks associated with electrotechnology work* <a href="#">UEENEEE137A</a> (UEECD0016 Document and apply measures to control WHS risks associated with electrotechnology work*)	20
UEECD0019 Fabricate, assemble and dismantle utilities industry components* <a href="#">UEENEEE102A</a> UEECD0019 Fabricate, assemble and dismantle utilities industry components*	40
UEECD0020 Fix and secure electrotechnology equipment* <a href="#">UEENEEE105A</a> UEECD0020 Fix and secure electrotechnology equipment*	20
UEECD0024 Implement and monitor energy sector WHS policies and procedures <a href="#">Substation Entry</a> <a href="#">Electricity Supply Industry Safety</a> <a href="#">UETDREL006</a> <a href="#">UETDRRF004</a> <a href="#">UETDRRF09</a>	20
UEECD0043 Solve problems in direct current circuits* <a href="#">UEENEEE104A</a> UEECD0044 Solve problems in multiple path circuits* UEECD0046 Solve problems in single path circuits*	80
UEECD0051 Use drawings, diagrams, schedules, standards, codes and specifications* <a href="#">UEENEEE107A</a> UEECD0051 Use drawings, diagrams, schedules, standards, codes and specifications*	40
UEEEL0003 Arrange circuits, control and protection for electrical installations* <a href="#">UEENEEG063A</a> UEEEL0003 Arrange circuits, control and protection for electrical installations* UEEEL0039 Design, install and verify compliance and functionality of general electrical installations*	40

UEEEL0008	Evaluate and modify low voltage heating equipment and controls*	20
UEEEL0009	Evaluate and modify low voltage lighting circuits, equipment and controls*	20
UEEEL0010	Evaluate and modify low voltage socket outlets circuits*	20
<a href="#">UEENEEG033A</a>		
UEEEL0008	Evaluate and modify low voltage heating equipment and controls*	
UEEEL0009	Evaluate and modify low voltage lighting circuits, equipment and control	
UEEEL0010	Evaluate and modify low voltage socket outlets circuits*	
UEEEL0018	Select wiring systems and select cables for low voltage electrical installations*	60
<a href="#">UEENEEG107A</a>		
UEEEL0018	Select wiring systems and select cables for low voltage electrical installations	
UEEEL0020	Solve problems in low voltage a.c. circuits*	80
<a href="#">UEENEEG102A</a>		
UEEEL0020	Solve problems in low voltage a.c. circuit	
UEEEL0019	Solve problems in direct current (d.c.) machines*	30
UEEEL0021	Solve problems in magnetic and electromagnetic devices*	30
<a href="#">UEENEEG101A</a>		
UEEEL0021	Solve problems in magnetic and electromagnetic devices	
UEEEL0019	Solve problems in direct current (d.c.) machines	
UEEEL0023	Terminate cables, cords and accessories for low voltage circuits*	40
<a href="#">UEENEEG106A</a>		
UEEEL0023	Terminate cables, cords and accessories for low voltage circuits*	
UEEEL0024	Test and connect alternating current (a.c.) rotating machines*	50
UEEEL0025	Test and connect transformers*	30
<a href="#">UEENEEG006A</a>		
UEEEL0024	Test and connect alternating current (a.c.) rotating machines*	
UEEEL0025	Test and connect transformers*	
UEECD0017	Establish and follow a competency development plan in an electrotechnology engineering discipline	
UEECD0003	Apply industry and community standards to engineering activities	20

UEECD0056 Apply methods to maintain currency of industry developments

50

[E083 Electro-technology Competency Development](#)

<http://www.mongroupsdney1.com/E083.pdf>

[E083 Electro-technology Competency Development \(Electronics\)](#)

<http://www.mongroupsdney1.com/E083Electronics.pdf>

UEECD0004 Apply material science to solving electrotechnology engineering problems

60

[Materials](#)

[E081 Class Lessons](#)

[E081 Material Science](#)

[Non Metallic Materials](#)

[RE010-Engineering Materials](#)

Day 10 Part 1

[RE010 ENMAT101A Engg Mat Processes1](#)

[RE010 ENMAT101A Engg Mat Processes1A](#)

[RE010 ENMAT101A Engg Mat Processes2](#)

[RE010 ENMAT101A Engg Mat Processes3](#)

[RE010 ENMAT101A Engg Mat Processes](#)

[Day 10 Part 1](#)

[RE010-Engineering Materials](#)

[www.highlightcomputer.com/Day\\_10\\_Part\\_1-RE010-Engineering\\_Materials.zip](http://www.highlightcomputer.com/Day_10_Part_1-RE010-Engineering_Materials.zip)

[Day 10 Part 1](#)

[RE010 Engineering Materials](#)

1 Properties of materials

2 metals

3 polymers

4 thermoplastics

5 ceramics

6 chemical bonding

7 ionic bond

8 metallic bond

9 covalent bond

10 production

13 strength

15 electrical properties

16 thermal properties

19 durability

20 corrosion resistance

22 force extension diagram,

23,24 25 carbon steel

26 brinell hardness test

34 fatigue testing

35 safety factor

36 casting

47 carbon state change diagram, 50

64 nickel copper equilibrium diagram 67

85, 86 smelting

86 steel manufacturing

87 electric arc furnacing

119,120 heat treatment

122 alloying

140 induction hardening 159

176 polyethylene

177 polyvinyl chloride

195 hardness test

209 ceramic  
 201 glass  
 231 mortar  
 240 matrix materials  
 247 welding  
 266 service requirement 267

### 10 RE010-Engineering Materials

[www.iqytechnicalcollege.com/RE010.zip](http://www.iqytechnicalcollege.com/RE010.zip)

#### ASSIGNMENT

Page 48 to 61 of

[www.highlightcomputer.com/BEGeneralREAssignment.pdf](http://www.highlightcomputer.com/BEGeneralREAssignment.pdf)

UEECD0005 Apply physics to solving electrotechnology engineering problems

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## Foundation Physics

### Physics 1

[Physics-E046 Part 2.zip](#)

[Physics E046 Part 2](#)

[http://highlightcomputergroup4.zoomshare.com/files/PhysicsE046\\_Part\\_2.zip](http://highlightcomputergroup4.zoomshare.com/files/PhysicsE046_Part_2.zip)

E046/ E082

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[www.highlightcomputer.com/Video Lessons.pdf](http://www.highlightcomputer.com/Video Lessons.pdf)

### **Physics**

**The links contain the following lessons**

E046 Lesson 1-Motion along straight line

<http://youtu.be/rDB2U1Mg-9Q>

E046 Lesson 2-Constant acceleration

<http://youtu.be/QPsYjstzcl>

<http://youtu.be/pr4YL41j4Bc>

<http://youtu.be/1B7CBmldoVo>

E046 Lesson 3-Vector

<http://youtu.be/YH00ITL5Tc>

E046 Lesson 4-Vector + Force Mass Acceleration

<http://youtu.be/hqhrG-9XVvk>

<http://youtu.be/ENIO1SODOn0>

E046 Lesson 5-Uniform circular motion

[http://youtu.be/\\_YPXgG59UjE](http://youtu.be/_YPXgG59UjE)

<http://youtu.be/XVi6Kz1kais>

E046 Lesson 6-Energy

<http://youtu.be/AG3P0UXrFBY>

E046 Lesson 7-Centre of mass

<http://youtu.be/EY8rM9MSE1k>

E046 Lesson 8-Rotation

<http://youtu.be/-V9f-2h0gNU>

E046 Lesson 9-Kinetic Energy of rotation

<http://youtu.be/D7ZsVZ44Nnl>

E046 Lesson 10-Equilibrium

<http://youtu.be/YtJmMWJZgl>

E046 Lesson 11-Fluid

<http://youtu.be/hQN2eyQfEeY>

E046 Lesson 12-Thermal expansion

<http://youtu.be/EM0DmVWSv8k>

E046 Lesson 13-Gases

<http://youtu.be/NAeTsvVWeJY>

<http://youtu.be/E7B8-ILflB8>

E046 Lesson 14-Heat temperature wave

<http://youtu.be/Th84r-BkLZM>

E046 Lesson 15-Harmonic motion

<http://youtu.be/c6ku5HnqBSA>

<http://youtu.be/tbEm7vieTMA>

E046 Lesson 16-Transverse wave

<http://youtu.be/2O6P7AJ3Xgc>

E046 Lesson 17-Wave and sound

<http://youtu.be/7Xh9QvDwbw>

E046 Lesson 18-Light and photon

<http://youtu.be/qm5tfHQaF8I>

<http://youtu.be/s5Q5XT-JihE>

E046 Lesson 19-Electric field

<http://youtu.be/WlePDh42cXE>

E046 Lesson 20-Magnetic field

<http://youtu.be/Hq1EhUqg85M>

<http://youtu.be/f7ZGb-FhWSo>

E046 Lesson 21-Faraday law of induction

[http://youtu.be/Rj7DeNg\\_GhA](http://youtu.be/Rj7DeNg_GhA)

<http://youtu.be/HWZZURK40vI>

<http://youtu.be/S8kxTHkptU8>

E046 Lesson 22-Magnetic deflection+Atom

<http://youtu.be/sUdGmpv6pT4>

<http://youtu.be/rxalu9L0WHg>

E046 Lesson 23-Nuclear physics principle

<http://youtu.be/NHajZLl3Q-I>

<http://youtu.be/h2xG0E3v450>

E046 Lesson 24-Nuclear spin+ Nuclear activity and decay

[http://youtu.be/zsJLSWC\\_uTM](http://youtu.be/zsJLSWC_uTM)

E046 Lesson 25-Nuclear model

<http://youtu.be/e4NzxFCbrMM>

E046 Lesson 26-Nuclear power generation

<http://youtu.be/l2Bf9e9DBlO>

E046 Lesson 27-Nuclear fusion

<http://youtu.be/g-V6APCehOU>

<http://youtu.be/tfh6qfufquU>

UEECD0010	Compile and produce an energy sector detailed report	20
	<a href="#">Electrical Report</a>	

### Report Writing

UEECD0014	Develop design briefs for electrotechnology projects	20
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UEEEL0015	Manage large electrical projects*	20
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UEEEL0058	Plan large electrical projects*	20
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UEECD0026	Manage risk in electrotechnology activities	20
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UEECD0059	Write specifications for electrical engineering projects	20
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[www.highlightcomputer.com/E01124G069G070Mod.zip](http://www.highlightcomputer.com/E01124G069G070Mod.zip)

[Project+Risk-E011+E017+G070+G069](#)

### Project Specification+ Variation

[E071MEM09004](#)

### Risk Management

[Project Risk Assessment and Management](#)**Electrical Risk Assessment**[http://www.mongroupsdney1.com/Electrical\\_Risk\\_Assessment.pdf](http://www.mongroupsdney1.com/Electrical_Risk_Assessment.pdf)[Project Management +Specification Delivery & Assessment Plan](#)<http://www.mongroupsdney1.com/ProjectManagementSpecificationDeliveryandAssessmentPlan.doc>[Risk Analysis](#)[Electrical Specifications](#)[Engineering Project Management](#)[Project Slides](#)

40

E011+E017+ E117+E137

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[www.highlightcomputer.com/Video\\_Lessons.pdf](http://www.highlightcomputer.com/Video_Lessons.pdf)**Risk analysis +OHS Information**<http://www.filefactory.com/file/cf8750b/n/E011+E017.zip>**The links contain the following lessons**

E011+E017 Lesson 1 Hazards of electricity

<http://youtu.be/u7hZkdSDWxl>

E011+E017 Lesson 2 Low voltage safety

<http://youtu.be/O9C0S5yzpy4><http://youtu.be/DILqJf5gNEQ><http://youtu.be/8fjcP8MEffl>

E011+E017 Lesson 3 Safety procedure &amp; methods

<http://youtu.be/DRdri7ZJUfw>

E011+E017 Lesson 4 Electrical installation safety

<http://youtu.be/2srZpukbAqW>

E011+E017 Lesson 5 Installation safety

<http://youtu.be/NVBghDWmeX0>

E071+G069+G070 + G169+G170

Page 102 to 127 of

[www.highlightcomputer.com/Video\\_Lessons.pdf](http://www.highlightcomputer.com/Video_Lessons.pdf)**Project Specifications+ Project Planning****The links contain the following lessons**

E071+G069+G070 Lesson 1 Project management planning

<http://youtu.be/VNe56RYAFyg>

E071+G069+G070 Lesson 2 NSW service rule+Marketing

<http://youtu.be/6D88EoKTXFA><http://youtu.be/ldr9z5WZq2w>

E071+G069+G070 Lesson 3+4 Contract planning + HV conductor

<http://youtu.be/k7vuQq7juNk><http://youtu.be/RyS31r1aOWQ>

E071+G069+G070 Lesson 5 Project modelling

<http://youtu.be/7gO57AHY-tk><http://youtu.be/lhcVELYNVYw>

E071+G069+G070 Lesson 6 Job planning

[http://youtu.be/QDr6ar\\_ZYmk](http://youtu.be/QDr6ar_ZYmk)<http://youtu.be/bsBVQFUtGp8>

E071+G069+G070 Lesson 7 Line infrastructure + Material planning

<http://youtu.be/x8-gdp3sP8Q>

E071+G069+G070 Lesson 8 Problem solving and decision making

<http://youtu.be/Khg1pnkEeQo>

E071+G069+G070 Lesson 9 Control of project+Maintenance specialist work

<http://youtu.be/eKuW5um3SR0><http://youtu.be/AA684uXyv48><http://youtu.be/6NG2Qzg4MMg>

E071+G069+G070 Lesson 10 Contract bid work

<http://youtu.be/4O9nAQmd4Qg>

E071+G069+G070 Lesson 11 Project structure

<http://youtu.be/libpIsnVNG4>

E071+G069+G070 Lesson 12 Analysing plan+ Insurance

[http://youtu.be/\\_x3oQvuAGq8](http://youtu.be/_x3oQvuAGq8)

<http://youtu.be/dMUAaI0A-4w>

E071+G069+G070 Lesson 13 Modelling project

<http://youtu.be/FJBVycx0vTM>

E071+G069+G070 Lesson 14 Project costing+Contracting paper work

<http://youtu.be/pOke86sLrzw>

<http://youtu.be/2RwrkL0Phb0>

<http://youtu.be/l7nh4pZgnSw>

E071+G069+G070 Lesson 15 Change control

<http://youtu.be/9JR-yJx1D0w>

E071+G069+G070 Lesson 16 Management leadership+Job accounting

<http://youtu.be/EYuy1zkKJ72k>

<http://youtu.be/Ay2DyulvVhk>

E071+G069+G070 Lesson 17 Management thinking+Contract management planning

<http://youtu.be/0LzgzKg5hu8>

<http://youtu.be/nrfqVQ7omfk>

		60
UEECD0024	Implement and monitor energy sector WHS policies and procedures	60

## Substation Entry

80

## Electricity Supply Industry Safety

[UETDREL006](#)

[UETDRRF004](#)

[UETTDRRF09](#)

UEECD0036	Provide engineering solutions for problems in complex multiple path circuits	40
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[Circuit G048+E025.zip](#)

[Circuit G048+E025](#)

[www.highlightcomputer.com/Circuit\\_G048E025G049-Mod.zip](http://www.highlightcomputer.com/Circuit_G048E025G049-Mod.zip)

[Electrical Circuits 1](#)

[Electrical Circuits 2](#)

E025/ G048/ E125

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[www.highlightcomputer.com/Video\\_Lessons.pdf](http://www.highlightcomputer.com/Video_Lessons.pdf)

**Advanced Electrical Circuits**

<http://www.filefactory.com/file/cf8775d/n/E025.zip>

**The links contain the following lessons**

E025 Lesson 1 Resonance

<http://youtu.be/U16XZnaB4hE>

<http://youtu.be/1cVPmM93y4>

E025 Lesson 2 Non sinusoidal Circuits

<http://youtu.be/Kq9t-t8DQ8Q>

<http://youtu.be/-LMhXfIMROk>

<http://youtu.be/s5kdChawoDU>

E025 Lesson 3 Pulse Waveform+RC Response

<http://youtu.be/95fJ9lp8fA>

E025 Lesson 4 Transformer

<http://youtu.be/Jlrgc6oTMA>

<http://youtu.be/r5BupGRKPIs>

<http://youtu.be/vKzTklTuAVo>

E025 Lesson 5 Decibel+Filter

[http://youtu.be/-6WoZ1w9\\_Y](http://youtu.be/-6WoZ1w9_Y)

E025 Lesson 6 Filter+Bode Plot

[http://youtu.be/7R1xjy4W\\_qc](http://youtu.be/7R1xjy4W_qc)

<http://youtu.be/FXIoCpLlual>

### **Power circuit analysis**

**G048 Lesson 1 Mesh analysis+Source conversion.zip**

**Mesh Analysis**

<http://youtu.be/MM--ZGqjl8A>

<http://youtu.be/HwFQSLXlcm0>

**Source Conversion**

<http://youtu.be/xwxbTZeYnJs>

<http://youtu.be/qyZ68VSC8v4>

<http://youtu.be/UdurkaaTqGk>

<http://youtu.be/vYMF-nDwgWM>

[http://youtu.be/\\_2uCwn8BFZ8](http://youtu.be/_2uCwn8BFZ8)

[http://youtu.be/Qwx\\_jPA0oAI](http://youtu.be/Qwx_jPA0oAI)

<http://youtu.be/ZPb8ejKe7Wo>

<http://youtu.be/AVqjZVJfuKY>

**G048 Lesson 2 Thevenin Theorem.zip**

<http://youtu.be/oKxZfnFOAqw>

<http://youtu.be/JoZdLTEUoPQ>

**G048 Lesson 3 Nodal Analysis.zip**

<http://youtu.be/ScVou22hBlc>

<http://youtu.be/s3Zy2ggfzuY>

**G048 Lesson 4 Superposition Theorem.zip**

<http://youtu.be/E69o2ftK3U>

<http://youtu.be/zF99nhpnhGU>

<http://youtu.be/5JfyfYULbrqA>

**G048 Lesson 5 AC Network Analysis.zip**

<http://youtu.be/acETIYails0>

<http://youtu.be/Y2WnzmgF1Ug>

<http://youtu.be/n-Yj9gGw5uk>

**G048 Lesson 6 Transient Circuit.zip**

<http://youtu.be/MErK1jW5Ws>

<http://youtu.be/IKvpSKrDnwQ>

<http://youtu.be/pzUmVlzL6RU>

**The links contain the following lessons**

G048 Lesson 1 Mesh analysis+ Source conversion  
 G048 Lesson 2 Thevenin Theorem  
 G048 Lesson 3 Nodal Analysis  
 G048 Lesson 4 Superposition Theorem  
 G048 Lesson 5 AC Network Analysis  
 G048 Lesson 6 Transient Circuit

UEECD0039 Provide solutions to basic engineering computational problems\*

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[www.iqytechnicalcollege.com/Maths 2-E026 Mod.zip](http://www.iqytechnicalcollege.com/Maths 2-E026 Mod.zip)

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E050/E126

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**Mathematics**

[E050Part1.zip](#)

Lesson 1

<http://youtu.be/67MNUPQMikw>

<http://youtu.be/GMrOtiVGcSg>

Lesson 2

<http://youtu.be/GMrOtiVGcSg>

Lesson 3

<http://youtu.be/3MnPK4HC0oc>

Lesson 4

<http://youtu.be/4Qiv5gvcxG0>

Lesson 5

<http://youtu.be/NJFYPLXjNDM>

Lesson 6

<http://youtu.be/Ejr9Genn5ZM>

[E050 Lesson 7 Mensuration+Area.zip](#)

<http://youtu.be/PSdB3--AHZM>

[E050 Lesson 8 Differentiation.zip](#)

<http://youtu.be/rLmLY8fj2l8>

[http://youtu.be/VLhQD\\_wrWY8](http://youtu.be/VLhQD_wrWY8)

[E050 Lesson 9 Integration.zip](#)

[http://youtu.be/ax\\_k2-qvhpA](http://youtu.be/ax_k2-qvhpA)

[E050 Lesson 10 Integration of trigo functions.zip](#)

<http://youtu.be/Xp6RlXES0qjs>

[E050 Lesson 11 Definite integral+Electrical application.zip](#)

<http://youtu.be/GS26UxVilPA>

<http://youtu.be/AYXFn88n4yM>

[E050 Lesson 11 Exercises.zip](#)

**The links contain the following lessons**

E050 Lesson 1 Polynomials  
 E050 Lesson 2 Non linear equations  
 E050 Lesson 3 Logarithmic equation  
 E050 Lesson 4 Circular function  
 E050 Lesson 5 Trigonometric identities  
 E050 Lesson 6 Vector  
 E050 Lesson 7 Mensuration+Area  
 E050 Lesson 8 Differentiation  
 E050 Lesson 9 Integration  
 E050 Lesson 10 Integration of trigo functions  
 E050 Lesson 11 Definite integral+Electrical application  
 E050 Lesson 11 Exercises

E026/E127

Page 26 to 50 of

[www.highlightcomputer.com/Video Lessons.pdf](http://www.highlightcomputer.com/Video Lessons.pdf)**Engineering Mathematics****E026 Lesson 1 to 5****The links contain the following lessons**

E026 Lesson 1-Fourier

<https://www.youtube.com/watch?v=QzYO2qCJGNg><http://youtu.be/fGL7VYtEBV4>

E026 Lesson 2-Differential equation

<http://youtu.be/RjhgggxG2p0>

E026 Lesson 3-Gamma+Beta Function

[http://youtu.be/D-bUQ1Uyl\\_Y](http://youtu.be/D-bUQ1Uyl_Y)<http://youtu.be/6rNFJbbqzyl>

E026 Lesson 4-Vector analysis

<http://youtu.be/T9OYT8RpgbA>

E026-Lesson 5-Laplace Transform

**Links**

E026 Harmonic Exercises

<https://www.youtube.com/watch?v=VSdug1mECDE>**E026 Definite Integral**<https://www.youtube.com/watch?v=oal27HPNvhA>**E026 Harmonics**<https://www.youtube.com/watch?v=yFM7ajxKnXw><http://youtu.be/d5drjXEZKv0><http://youtu.be/NDUvNSO6il8><http://youtu.be/d5drjXEZKv0>**E026 Multiple Integral**<http://youtu.be/amV5KiBi0jk><http://youtu.be/lAKJvYUTPii>

E026-Lesson 6-Inverse Laplace+ Differential equation solution

[http://youtu.be/yXulBjEl\\_2w](http://youtu.be/yXulBjEl_2w)<http://youtu.be/SPGeFn2icU0><http://youtu.be/4VLHZp6joYg><http://youtu.be/bYkylGd17PU><http://youtu.be/GrYcm8FzAMY>

E026-Lesson 7-Matrices

<http://youtu.be/99cNSVx4hgU><http://youtu.be/ztHu2UYwA5c>

[http://youtu.be/m\\_7eVILNSsl](http://youtu.be/m_7eVILNSsl)

<http://youtu.be/5hq-ZfZdCRl>

E026-Lesson 8 Legendre Function

<http://youtu.be/VWwysJQ1grs>

E026-Lesson 9 Binomial Theorem+ Partial Differential equation

<http://youtu.be/nj4dWucI5Q>

E026-Lesson 10 Multiple Integral

<http://youtu.be/amV5KiBi0jk>

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UEECS0033 Use engineering applications software on personal computers

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### **.ICT 101+102 Information Technology Fundamentals+ Computer Application**

VIDEO

Day 4 Part 2

ICT 101+102

<https://youtu.be/ckPjeQjh8Os>

#### **Day 4 Part 2**

ICT 101 Information Technology Fundamentals

Day 4 Part 2 ICT 101+102.mp4 (120.65MB)

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LESSON

[www.highlightcomputer.com/Mgt108.zip](http://www.highlightcomputer.com/Mgt108.zip)

Day 4 Part 2 ICT 101+102 Information Technology Fundamentals+Computer Application.zip (33.64MB)

[www.highlightcomputer.com/Day\\_4\\_Part\\_2\\_Mgt\\_108\\_Computer\\_Application\\_in\\_Management.zip](http://www.highlightcomputer.com/Day_4_Part_2_Mgt_108_Computer_Application_in_Management.zip)

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VIDEO

Day 6 Part 2

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**Day 6 Part 2**

**[ICT 103 Applied Programming](#)**

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### **Computer Programming(BAE601-ICT 103+104+204)**

LESSON

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UEEEL0062 Provide engineering solutions to problems in complex polyphase power circuits\* 40

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#### 3 Phase Circuits

G049+G149

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#### Three phase system

[G049 Lesson 1 Basic three phase circuit.zip](#)

<http://youtu.be/l28eE1Te55U>

[G049 Lesson 2 Three phase star delta.zip](#)

<http://youtu.be/BX3-ht6DWTI>

<http://youtu.be/wJucGbdHll>

[G049 Lesson 3 Three phase power measurement.zip](#)

<http://youtu.be/Q6kbCDGTUAI>

[G049 Lesson 4 Three phase 4 wires unbalanced load.zip](#)

<http://youtu.be/Pfjn5RCjdoq>

[G049 Lesson 5 Three phase 3 wires unbalanced load.zip](#)

<http://youtu.be/uDPUhOq5qb8>

[G049 Lesson 6 Three phase power by 2 watt meters.zip](#)

<http://youtu.be/AI6iojMH32c>

[G049 Lesson 7 Three phase fault.zip](#)

[http://youtu.be/lBWI\\_s580yc](http://youtu.be/lBWI_s580yc)

[G049 Lesson 8 Three phase fault calculation table.zip](#)

[http://youtu.be/55ps\\_sdYQ5k](http://youtu.be/55ps_sdYQ5k)

[G049 Lesson 9 Fault calculation.zip](#)

<http://youtu.be/cr-1MR9HHow>

[G049 Lesson 10 Sequence network.zip](#)

<http://youtu.be/Z1MwCBY0SO4>

<http://youtu.be/7epZP1-0hts>

**The links contain the following lessons**

G049 Lesson 1 Basic three phase circuit  
 G049 Lesson 2 Three phase star delta  
 G049 Lesson 3 Three phase power measurement  
 G049 Lesson 4 Three phase 4 wires unbalanced load  
 G049 Lesson 5 Three phase 3 wires unbalanced load  
 G049 Lesson 6 Three phase power by 2 watt meters  
 G049 Lesson 7 Three phase fault  
 G049 Lesson 8 Three phase fault calculation table  
 G049 Lesson 9 Fault calculation  
 G049 Lesson 10 Sequence network

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UETDRIS67 Solve problems in energy supply network equipment\* 80

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[Power system 2-G037+G038+G039.zip](#)

[Power System 2 G037+G038+G039](#)

G037+G038+G039 Part 1/2/3+IS69

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[Power System \(2\)](#)

[G037+G038+G039 Lesson 1-Power Flow.zip](#)

<http://youtu.be/mzwGGXRTtw>

[G037+G038+G039 Lesson 2-Site Earthing.zip](#)

<http://youtu.be/PATkXVBF9kc>

<http://youtu.be/H4DJ1K238BE>

[G037+G038+G039 Lesson 3-Power System Control Equipments.zip](#)

<http://youtu.be/JJczbYVW0ol>

[G037+G038+G039 Lesson 4-Auxiliary System+Harmonic.zip](#)

<http://youtu.be/5mDNHGFLA0c>

[G037+G038+G039 Lesson 5-Harmonic.zip](#)<http://youtu.be/n41q4Rmz2p0><http://youtu.be/8CeIGV5AEIk>[G037+G038+G039 Lesson 6-Harmonic Calculation.zip](#)<http://youtu.be/NHSzu6HkQgl><http://youtu.be/fSLrPIC6Mho>[G037+G038+G039 Lesson 7-Synchronous Generator Loading.zip](#)<http://youtu.be/jv1q7Mtq7Gs>[G037+G038+G039 Lesson 8-Turbine Control+Power Line Earthing.zip](#)<http://youtu.be/0CvgkmDE3Kw>[G037+G038+G039 Lesson 9-Insulator.zip](#)<http://youtu.be/4jq8MLBFA><http://youtu.be/TIQezIA9Z-c>[G037+G038+G039 Lesson 10-Reliability of Power System.zip](#)<http://youtu.be/tUk3nc1xE>[G037+G038+G039 Lesson 11-Harmonic Reduction.zip](#)<http://youtu.be/8dYX-11kRcc><http://youtu.be/A684Agej8-w>[G037+G038+G039 Lesson 12-Grounding + Power Quality.zip](#)<http://youtu.be/QQPJj3WXJnA>[G037+G038+G039 Lesson 13-Power Quality.zip](#)[http://youtu.be/fel7SCb\\_QTY](http://youtu.be/fel7SCb_QTY)<http://youtu.be/mcK2YhDsnr0>[G037+G038+G039 Lesson 14-Harmonic Model.zip](#)<http://youtu.be/dwWBQq-BsLY>[G037+G038+G039 Lesson 15-Harmonic Losses in Transformer.zip](#)<http://youtu.be/mwEJgEEgPVc><http://youtu.be/1A6FY5f5jiM><http://youtu.be/yLiOKy7uJlQ>[G037+G038+G039 Lesson 16-Reliability Improvement.zip](#)<http://youtu.be/cn-CfDWnUN8>[G037+G038+G039 Lesson 17-Preparation for emergency.zip](#)<http://youtu.be/La7Xjp8G12I>[G037+G038+G039 Lesson 18-Harmonic problems.zip](#)<http://youtu.be/0Urnkee>[http://youtu.be/zM\\_Xcwckicw](http://youtu.be/zM_Xcwckicw)[G037+G038+G039 Lesson 19-Synchronous machine problems.zip](#)<http://youtu.be/Lx2S-NATr20>[G037+G038+G039 Lesson 20-Power Generation + Generator Control.zip](#)<http://youtu.be/56Ks8sArQxc>[G037+G038+G039 Lesson 21-Turbine Control+ Digital Excitation.zip](#)<http://youtu.be/uCsvv18qKwQ><http://youtu.be/l4vCDI2CZS0>[G037+G038+G039 Lesson 22-Power System Protection.zip](#)<http://youtu.be/c6iXRwfCYBU>[G037+G038+G039 Lesson 23-Switch Gear.zip](#)<http://youtu.be/DDpbzqNYTIM>

<http://youtu.be/2cl-nOdBNro>

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G037+G038+G039 Lesson 1-Power Flow  
 G037+G038+G039 Lesson 2-Site Earthing  
 G037+G038+G039 Lesson 3-Power System Control Equipments  
 G037+G038+G039 Lesson 4-Auxiliary System+ Harmonic  
 G037+G038+G039 Lesson 5-Harmonic  
 G037+G038+G039 Lesson 6-Harmonic Calculation  
 G037+G038+G039 Lesson 7-Synchronous Generator Loading  
 G037+G038+G039 Lesson 8-Turbine Control+ Power Line Earthing  
 G037+G038+G039 Lesson 9-Insulator  
 G037+G038+G039 Lesson 10-Reliability of Power System  
 G037+G038+G039 Lesson 11-Harmonic Reduction  
 G037+G038+G039 Lesson 12-Grounding + Power Quality  
 G037+G038+G039 Lesson 13-Power Quality  
 G037+G038+G039 Lesson 14-Harmonic Model  
 G037+G038+G039 Lesson 15-Harmonic Losses in Transformer  
 G037+G038+G039 Lesson 16-Reliability Improvement  
 G037+G038+G039 Lesson 17-Preparation for emergency  
 G037+G038+G039 Lesson 18-Harmonic problems  
 G037+G038+G039 Lesson 19-Synchronous machine problems  
 G037+G038+G039 Lesson 20-Power Generation + Generator Control  
 G037+G038+G039 Lesson 21-Turbine Control+ Digital Excitation  
 G037+G038+G039 Lesson 22-Power System Protection  
 G037+G038+G039 Lesson 23-Switch Gear

UETTDRI68 Solve problems in energy supply network protection equipment and systems\*

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**Power System Protection**

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<http://youtu.be/EGXkLRM2L9M>

<http://youtu.be/zOIUYQ7OJfs>

**G015(AE)Lesson 2-Differential relay.zip**

<http://youtu.be/2iW0oEScMsw>

**G015(AE)Lesson 3-Over current & earth fault protection.zip**

<http://youtu.be/hvGjdO9jEhk>

**G015(AE)Lesson 4-Three phase differential relay.zip**

<http://youtu.be/2iW0oEScMsw>

<http://youtu.be/VuzjXkRx4UI>

<http://youtu.be/2iW0oEScMsw>

**G015(AE)Lesson 5-Current time grading.zip**

<http://youtu.be/r0gkLrmkKsM>

G015AE Lesson 6

[http://youtu.be/lnsTLh7\\_N5k](http://youtu.be/lnsTLh7_N5k)

**G015(AE)Lesson 7-CT\_PT.zip**

[http://youtu.be/ZF\\_v65xsM\\_M](http://youtu.be/ZF_v65xsM_M)

**G015(AE)Lesson 8-Distance relay.zip**

<http://youtu.be/NKzMVquFLu8>

**G015(AE)Lesson 9-Telecom in power protection.zip**

<http://youtu.be/9C6gggZAKRg>

[http://youtu.be/XRpfA6hU\\_U](http://youtu.be/XRpfA6hU_U)

<http://youtu.be/X-kz3cyL9fU>

Group C: General elective units		Weighting Points
UEEEL0007	Develop detailed electrical drawings* <b>AutoCAD 2D 3D Lessons</b> <a href="#">ElectricalDrawing1.pdf</a>  <a href="#">ElectricalDrawing2.pdf</a>  <a href="#">ElectricalDrawing3.pdf</a>  <a href="#">GeneralDrawing1.pdf</a>  <a href="#">GeneralDrawing2.pdf</a>	60
UEEIC0015	Develop, enter and verify word and analogue control programs for programmable logic controllers* <b>Programmable Logic Controller</b>  <b>Australian Electrician Programmable Logic Controller</b>	60
UEERE0022	Solve basic problems in photovoltaic energy apparatus and systems*	20
UEERE0011	Design grid-connected photovoltaic power supply systems* <b>Renewable Energy-K025+K035.zip</b>  <a href="http://highlightcomputergroup4.zoomshare.com/files/Renewable_EnergyK025K035_Mod.zip">http://highlightcomputergroup4.zoomshare.com/files/Renewable_EnergyK025K035_Mod.zip</a>  <a href="#">Renewable Energy K025+K035</a>  <a href="#">Solar Electrical System</a>  <a href="#">K125+K135-PV System+PV Inverter.pdf</a>  <a href="#">K135 Text book.pdf</a>  <a href="#">K135 Lessons</a>  Page 473 to 490 of <a href="http://www.highlightcomputer.com/Video_Lessons.pdf">www.highlightcomputer.com/Video_Lessons.pdf</a>  <b>Renewable Energy+ Photovoltaic</b>  <a href="#">K025 Lesson 1-PV Cell.zip</a>  <a href="http://youtu.be/KVxTNh71iis">http://youtu.be/KVxTNh71iis</a>  <a href="#">K025 Lesson 2-PV Power.zip</a>  <a href="http://youtu.be/ZjpUk0kc3GA">http://youtu.be/ZjpUk0kc3GA</a>	60

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K025 Lesson 3-Module derating  
K025 Lesson 4-PV Module daily energy  
K025 Lesson 5-PV daily energy accurate method  
K025 Lesson 6-Solar insolation  
K025 Lesson 7-Solar geometry  
K025 Lesson 8-PV Semiconductor  
K025 Lesson 9-Solar irradiation and shading assessment  
K025 Lesson 10-Irridation assessment  
K025 Lesson 11-Solar cell technology  
K025 Lesson 12-PV Power system  
K025 Lesson 13-PV water pumping system  
K025 PV Software Video

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**Renewable Energy+ Photovoltaic Inverter**

[K035 Lesson 1-Inverter principle.zip](#)

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[K035 Lesson 2-Modified sine wave inverter.zip](#)

<http://youtu.be/QQFpzhUq0l0>

[K035 Lesson 3-Pulse width modulation.zip](#)

<http://youtu.be/NE95TgkrLQA>

[K035 Lesson 4-PV Inverter.zip](#)

<http://youtu.be/WcxxGQlxpgM>

<http://youtu.be/gkOA2T7qwGk>

[K035 Lesson-5 MOSFET Driver.zip](#)

<http://youtu.be/K4AzSAvFI6j>

[K035 Lesson-6 PWM Inverter.zip](#)

[http://youtu.be/Lc\\_PC44lqLj](http://youtu.be/Lc_PC44lqLj)

[K035 Lesson-7 Grid Connected Inverter.zip](#)

<http://youtu.be/5m4SZA2CeRA>

<http://youtu.be/pWQMLkaUfhQ>

[K035 Lesson-8 Inverter Power Flow Model.zip](#)

<http://youtu.be/wcjqCneerZw>

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K035 Lesson 1-Inverter principle  
K035 Lesson 2-Modified sine wave inverter

K035 Lesson 3-Pulse width modulation  
 K035 Lesson 4-PV Inverter  
 K035 Lesson-5 MOSFET Driver  
 K035 Lesson-6 PWM Inverter  
 K035 Lesson-7 Grid Connected Inverter  
 K035 Lesson-8 Inverter Power Flow Model

**Group D: General elective units**

**Weighting  
Points**

UETDRIS70 Diagnose and rectify faults in electrical energy distribution systems\*

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[www.highlightcomputer.com/G015-AA Mod.zip](http://www.highlightcomputer.com/G015-AA Mod.zip)

Electrical Distribution Lessons

G015/ IS67+68+ IS74

Page 196 to 231 of

[www.highlightcomputer.com/Video Lessons.pdf](http://www.highlightcomputer.com/Video Lessons.pdf)

**Power System (1)**

[G015\(AA\)Lesson 1-Distribution system.zip](#)

<http://youtu.be/VuzjXkRx4UI>

[G015\(AA\)Lesson 2-Demand factor.zip](#)

<http://youtu.be/cUGbxhBT-Dc>

<http://youtu.be/DCC14cO3Vu8>

[G015\(AA\)Lesson 3-Sag.zip](#)

<http://youtu.be/1s496h-luu8>

[G015\(AA\)Lesson 4-OH Line mechanical design.zip](#)

<http://youtu.be/T0BnyqV9T6E>

[http://youtu.be/hu1TrUv2\\_OY](http://youtu.be/hu1TrUv2_OY)

[G015\(AA\)Lesson 5-UG Cable.zip](#)

<http://youtu.be/hHCLzMnVmT0>

<http://youtu.be/A5AieaBBZHo>

[G015\(AA\)Lesson 6-Voltage control.zip](#)

<http://youtu.be/y1vTM5fvfyU>

<http://youtu.be/Z9HBGsVgymA>

UETDRIS71 Diagnose and rectify faults in electrical energy supply transmission systems\*

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[www.highlightcomputer.com/G042 Mod.zip](http://www.highlightcomputer.com/G042 Mod.zip)

Power Transmission 1

Power Transmission 2

Page 285 to 307 of

[www.highlightcomputer.com/Video Lessons.pdf](http://www.highlightcomputer.com/Video Lessons.pdf)

**Transmission Line**

[G042 Lesson 1-Transmission line introduction.zip](#)

<http://youtu.be/DrOQgcKeaL4>

[G042 Lesson 2-DC Line+Line reflection.zip](#)

<http://youtu.be/jVdecp-clk>

[G042 Lesson 3-Power line calculation.zip](#)<http://youtu.be/3TgVt67DhvY><http://youtu.be/QT6aqsaM7a0><http://youtu.be/WxjQlkdJjQ8>[G042 Lesson 4-Line model+Economic aspect.zip](#)[http://youtu.be/1HRdGZXp\\_w](http://youtu.be/1HRdGZXp_w)[G042 Lesson 5-Time value of money+Line reflection.zip](#)<http://youtu.be/n9mupLQWANY><http://youtu.be/YdfiX2gI-3c>[G042 Lesson 6-Line matching+Wave guide.zip](#)[http://youtu.be/1Wyp5\\_Cek40](http://youtu.be/1Wyp5_Cek40)[G042 Lesson 7-Wave guide.zip](#)<http://youtu.be/BuGijZ3QBxk><http://youtu.be/nftevsnl0w>[G042 Lesson 8-Microstrip line.zip](#)<http://youtu.be/eINg1kKuiec>[G042 Lesson 9-Per unit value of line.zip](#)<http://youtu.be/66Y-Lm3EntI>[G042 Lesson 10-Line constants.zip](#)<http://youtu.be/2XYnZZ-zXII>[G042 Lesson 11-Smith chart.zip](#)<http://youtu.be/dv-NQh4vIrg><http://youtu.be/KfM8XZd9Wqg><http://youtu.be/3NYVQvW8-Nk><http://youtu.be/5qBwLsbftA>[http://youtu.be/ViamcvqAy\\_I](http://youtu.be/ViamcvqAy_I)[http://youtu.be/j\\_nx9n7mGec](http://youtu.be/j_nx9n7mGec)<http://youtu.be/d53B3-zV2ec>[G042 Lesson 12-Four terminals network.zip](#)<http://youtu.be/HCO4P1qrPbA>

[G042 Lesson 13-Exercises.zip](#)<http://youtu.be/LeyJf1PhpCY>**The links contain the following lessons**

G042 Lesson 1-Transmission line introduction  
 G042 Lesson 2-DC Line+Line reflection  
 G042 Lesson 3-Power line calculation  
 G042 Lesson 4-Line model+Economic aspect  
 G042 Lesson 5-Time value of money+Line reflection  
 G042 Lesson 6-Line matching+Wave guide  
 G042 Lesson 7-Wave guide  
 G042 Lesson 8-Microstrip line  
 G042 Lesson 9-Per unit value of line  
 G042 Lesson 10-Line constants  
 G042 Lesson 11-Smith chart  
 G042 Lesson 12-Four terminals network  
 G042 Lesson 13-Exercises

**Group E: General elective units****Weighting  
Points**UEEEL0042 **Develop engineering solutions for d.c. machine and control problems\***

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<http://www.highlightcomputer.com/Elect Machine-G043G044G045 Mod.zip>[DC Machines 1](#)[DC Machines 2](#)[DC Machines 3](#)

G044+G144+I146

Page 330 to 343 of

[www.highlightcomputer.com/Video Lessons.pdf](http://www.highlightcomputer.com/Video Lessons.pdf)**[DC Machine and control](#)**[G044 Lesson 1 DC Machine Principle.zip](#)[http://youtu.be/-jAtAH\\_Ny9d](http://youtu.be/-jAtAH_Ny9d)[G044 Lesson 2 DC Winding +Armature reaction.zip](#)<http://youtu.be/SYx2SSmMKIE><http://youtu.be/YtTPpjiUYI>[G044 Lesson 3 Factors affecting speed & direction of rotation.zip](#)<http://youtu.be/9-7wsKVrhls>[http://youtu.be/O\\_uo2H5RfIc](http://youtu.be/O_uo2H5RfIc)<http://youtu.be/QaabA5pmB9E>[G044 Lesson 4 Torque speed relation.zip](#)<http://youtu.be/NsBiqxreBOA>[G044 Lesson 5 Losses & efficiency of DC machine.zip](#)<http://youtu.be/2sHkCIBWfW><http://youtu.be/hZAJL3oUxMM>

[G044 Lesson 6 Machine temperature rise.zip](#)<http://youtu.be/h8PNG21p-p4>[http://youtu.be/Cq0V4DR\\_2wE](http://youtu.be/Cq0V4DR_2wE)[G044 Lesson 7 DC motor control.zip](#)<http://youtu.be/XUidfz-gtF0>[G044 Lesson 8 Duty cycle+DC motor starter.zip](#)<http://youtu.be/bhQf-hurKMI>[G044 Lesson 9 DC motor speed control.zip](#)<http://youtu.be/kRfoWS3ujdE>[http://youtu.be/R\\_0LDkQEAHU](http://youtu.be/R_0LDkQEAHU)**The links contain the following lessons**

G044 Lesson 1 DC Machine Principle  
 G044 Lesson 2 DC Winding +Armature reaction  
 G044 Lesson 3 Factors affecting speed & direction of rotation  
 G044 Lesson 4 Torque speed relation  
 G044 Lesson 5 Losses & efficiency of DC machine  
 G044 Lesson 6 Machine temperature rise  
 G044 Lesson 7 DC motor control  
 G044 Lesson 8 Duty cycle+DC motor starter  
 G044 Lesson 9 DC motor speed control

UEEEL0041 Develop engineering solution for synchronous machine and control problems\*

UEEEL0043 Develop engineering solutions for induction machine and control problems\*

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<http://www.highlightcomputer.com/Elect Machine-G043G044G045 Mod.zip>

[AC Machines 1](#)[AC Machines 2](#)

G043+G045+ G143+145+I145

Page 308 to 329 of

[www.highlightcomputer.com/Video Lessons.pdf](http://www.highlightcomputer.com/Video Lessons.pdf)[Induction and synchronous machines & control](#)[G043+G045 Lesson 1 AC Machine Introduction.zip](#)<http://youtu.be/-WfOPhNDn8>[G043+G045 Lesson 2 Slip+Equivalent Ckt.zip](#)<http://youtu.be/De79cbk2EOQ><http://youtu.be/gprZTtiOao>[G043+G045 Lesson 3 Power Transfer.zip](#)<http://youtu.be/pCMcMPBrUEE><http://youtu.be/7tjJDuG5SQc>

<http://youtu.be/dV9VFsXeFnY>

[G043+G045 Lesson 4 Test for equivalent ckt.zip](#)

<http://youtu.be/HF4bJ6vWX2c>

[G043+G045 Lesson 5 Equivalent Ckt Problems.zip](#)

[http://youtu.be/PyPQsw0L\\_o0](http://youtu.be/PyPQsw0L_o0)

[http://youtu.be/f8VbD\\_APNfk](http://youtu.be/f8VbD_APNfk)

<http://youtu.be/SROLC5hkoc0>

[G043+G045 Lesson 6 Motor starting and control.zip](#)

<http://youtu.be/Ujfbzs7TI6M>

<http://youtu.be/VnNlesPgeZk>

<http://youtu.be/AMO70oGS2Fs>

<http://youtu.be/FQVMCMDSTwo>

[G043+G045 Lesson 7 Synchronous machine introduction.zip](#)

<http://youtu.be/KM9TJcr2MBk>

[G043+G045 Lesson 8 Synchronous machine ckt problems.zip](#)

<http://youtu.be/ZGsmZiLiPoc>

<http://youtu.be/bnpYxKtSz1c>

[G043+G045 Lesson 9 Synchronous machine starting.zip](#)

<http://youtu.be/p4x03LkgBc8>

<http://youtu.be/yKmNWaxT2Hk>

[G043+G045 Lesson 10 Single phase motor.zip](#)

<http://youtu.be/9QgmEb0tFpE>

[G043+G045 Lesson 11 Factors affecting motor operation.zip](#)

<http://youtu.be/sAqyhDjpwvY>

**The links contain the following lessons**

G043+G045 Lesson 1 AC Machine Introduction

G043+G045 Lesson 2 Slip+Equivalent Ckt

G043+G045 Lesson 3 Power Transfer

G043+G045 Lesson 4 Test for equivalent ckt

G043+G045 Lesson 5 Equivalent Ckt Problems

G043+G045 Lesson 6 Motor starting and control

G043+G045 Lesson 7 Synchronous machine introduction

G043+G045 Lesson 8 Synchronous machine ckt problems

G043+G045 Lesson 9 Synchronous machine starting

G043+G045 Lesson 10 Single phase motor

G043+G045 Lesson 11 Factors affecting motor operation

UEEIC0008 Design electronic control systems

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[http://www.highlightcomputer.com/AmplifierPower\\_SupplyDigital\\_Mod.zip](http://www.highlightcomputer.com/AmplifierPower_SupplyDigital_Mod.zip)

<http://highlightcomputergroup4.zoomshare.com/files/H011.zip>

### **Power Supply H011**

<http://highlightcomputergroup4.zoomshare.com/files/H012.zip>

### **Digital H012**

[http://highlightcomputergroup4.zoomshare.com/files/H012\\_I006-4.Digital\\_control.zip](http://highlightcomputergroup4.zoomshare.com/files/H012_I006-4.Digital_control.zip)

### **Digital Control H012+I006**

[http://highlightcomputergroup4.zoomshare.com/files/H013\\_Part\\_2.zip](http://highlightcomputergroup4.zoomshare.com/files/H013_Part_2.zip)

### **Amplifier 1 H013 Part2**

<http://highlightcomputergroup4.zoomshare.com/files/H013.zip>

### **Amplifier 1 H013 Part1**

[Process control-I006+I008+I020.zip](#)

[http://highlightcomputergroup4.zoomshare.com/files/Process\\_controlI006I008I020\\_Mod.zip](http://highlightcomputergroup4.zoomshare.com/files/Process_controlI006I008I020_Mod.zip)

### **Process Control I006+I008+I020**

-  
[Pressure Flow Pnuematics](#)

[Temperature Measurement](#)

[Analog Digital Signal Conditioning](#)

[PLC Program](#)

[PLC](#)

[Process Control](#)

-

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[www.highlightcomputer.com/Video\\_Lessons.pdf](http://www.highlightcomputer.com/Video_Lessons.pdf)

### **Process Control+ Digital Electronics +Signal Processing**

[I006 Part 1-Process Control-Signal Conditioning.zip](#)

<http://youtu.be/C4lVgfKuSW4>

[I006 Lesson 1 Process control Intro+Signal conditioning.zip](#)

[I006 Lesson 2 Op-amp in process control.zip](#)

<http://youtu.be/AXlcU51ps84>

[I006 Lesson 3 Pnuematic.zip](#)

<http://youtu.be/C6sxFVofvkE>

[I006 Lesson 3+H012 Lesson 1 Digital principle+Logic gates.zip](#)

<http://youtu.be/C6sxFVofvkE>  
[http://youtu.be/EsD\\_AFu-ivk](http://youtu.be/EsD_AFu-ivk)

[I006 Lesson 4+H012 Lesson 2 Equivalent gate.zip](#)

<http://youtu.be/vesmolTetEc>

<http://youtu.be/YZR8jYsyLhk>

[I006 Part 4-Transducers.zip](#)

[I006 Lesson 5+H012 Lesson 3 Number system.zip](#)

<http://youtu.be/3tkPLJOGK2w>

<http://youtu.be/f9ZjIzyQM4M>

[I006 Lesson 6+H012 Lesson 4 Binary subtraction.zip](#)

[http://youtu.be/\\_Q3pRlclCo8](http://youtu.be/_Q3pRlclCo8)

<http://youtu.be/8BcUJ7BDKlI>

[I006 Lesson 7+H012 Lesson 5 Endecoder+Decoder.zip](#)

<http://youtu.be/8BcUJ7BDKlI>

[I006 Lesson 8+H012 Lesson 6 SR Flipflop.zip](#)

<http://youtu.be/QB3I1utxMQk>

[I006 Lesson 9+H012 Lesson 7 Shift register+Data latches.zip](#)

<http://youtu.be/Dno6mTqdSeg>

[I006 Lesson 10+H012 Lesson 8 Counter.zip](#)

<http://youtu.be/qID0a4T4mPM>

<http://youtu.be/cnB8WaUHK9k>

[I006 Lesson 11+H012 Lesson 9 Display.zip](#)

<http://youtu.be/EGSuf2BKrSo>

<http://youtu.be/imBgGNrI7L4>

[I006 Lesson 12 Digital signal processing.zip](#)

<http://youtu.be/nF6exJcU0jg>

[I006 Lesson 13 Digital control design.zip](#)<http://youtu.be/ggcylffa0yl><http://youtu.be/KknQ8IyoLsck>[I006 Lesson 14 DAC.zip](#)<http://youtu.be/rOOr8-7SwdY><http://youtu.be/Tjw-UKimmZE>[I006 Lesson 15 Ramp AD.zip](#)<http://youtu.be/C76wnIqVRIU>[I006 Lesson 16 Sample and hold.zip](#)[http://youtu.be/GvF\\_pUQH2lk](http://youtu.be/GvF_pUQH2lk)[I006 Lesson 17 Micro processor compatible DAC.zip](#)<http://youtu.be/cByb6RpKJIA>[http://youtu.be/10aYqRn7\\_mg](http://youtu.be/10aYqRn7_mg)[I006 Lesson 18 Thermocouple.zip](#)[http://youtu.be/QkcVEIqPv\\_4](http://youtu.be/QkcVEIqPv_4)[I006 Lesson 19 Temperature measurement.zip](#)[http://youtu.be/TLgQN4tZM\\_I](http://youtu.be/TLgQN4tZM_I)[I006 Lesson 20 Proportional mode.zip](#)<http://youtu.be/nJZ7IQXQVc><http://youtu.be/6iO8dJUQV8I>[I006 Lesson 21 Industrial transducer.zip](#)<http://youtu.be/nDGvjfBRv-8>[I006 Lesson 22 Force measurement.zip](#)<http://youtu.be/BlKpRw3Wszs>[I006 Lesson 23 Open loop control+Proportional control.zip](#)<http://youtu.be/l7mIVJ6F1mk><http://youtu.be/qw9G6enld4E>[I006 Lesson 24 Closed loop control.zip](#)<http://youtu.be/R37Dcbsf3Fo><http://youtu.be/kV2dfbkPT5o>

[I006 Lesson 25 Electronics signal in process control.zip](#)<http://youtu.be/fEwaTBTZxE><http://youtu.be/f2DrTeYShog>[I006 Lesson 26 PCM.zip](#)<http://youtu.be/ZiblAqJEHlo>[I006 Lesson 27 Control loop.zip](#)<http://youtu.be/uvKx0xmy2Lo>[http://youtu.be/lo\\_dSNA03IA](http://youtu.be/lo_dSNA03IA)[I006 Lesson 28 Strain gauge+Piezo electric.zip](#)<http://youtu.be/tiBHajsTd-E>[I006 Lesson 29 Light transducer.zip](#)<http://youtu.be/3y4kNvPMxIU><http://youtu.be/Xc918QLN1PY><http://youtu.be/XBhkG2rBgiM>**The links contain the following lessons**

I006 Lesson 1 Process control Intro+Signal conditioning  
 I006 Lesson 2 Op-amp in process control  
 I006 Lesson 3 Pneumatic  
 I006 Lesson 3+H012 Lesson 1 Digital principle+Logic gates  
 I006 Lesson 4+H012 Lesson 2 Equivalent gate  
 I006 Lesson 5+H012 Lesson 3 Number system  
 I006 Lesson 6+H012 Lesson 4 Binary subtraction  
 I006 Lesson 7+H012 Lesson 5 Encoder+Decoder  
 I006 Lesson 8+H012 Lesson 6 SR Flipflop  
 I006 Lesson 9+H012 Lesson 7 Shift register+Data latches  
 I006 Lesson 10+H012 Lesson 8 Counter  
 I006 Lesson 11+H012 Lesson 9 Display  
 I006 Lesson 12 Digital signal processing  
 I006 Lesson 13 Digital control design  
 I006 Lesson 14 DAC  
 I006 Lesson 15 Ramp AD  
 I006 Lesson 16 Sample and hold  
 I006 Lesson 17 Micro processor compatible DAC  
 I006 Lesson 18 Thermocouple  
 I006 Lesson 19 Temperature measurement  
 I006 Lesson 20 Proportional mode  
 I006 Lesson 21 Industrial transducer  
 I006 Lesson 22 Force measurement  
 I006 Lesson 23 Open loop control+ Proportional control  
 I006 Lesson 24 Closed loop control  
 I006 Lesson 25 Electronics signal in process control  
 I006 Lesson 26 PCM  
 I006 Lesson 27 Control loop  
 I006 Lesson 28 Strain gauge+ Piezo electric  
 I006 Lesson 29 Light transducer

**D150+D151 Control Programming****I20-6 Control Loop Programming**[http://youtu.be/\\_vgqvDECzA](http://youtu.be/_vgqvDECzA)**I20-7 Assembly Programming (1)**<http://youtu.be/UhWAt-sFhiQ>**I20-7 Assembly Programming (2)**

<http://youtu.be/YCm6DO20j4>

I20-8 Subroutine

<http://youtu.be/V08SbXJCf4k>

I20-9 Time Delay (1)

[http://youtu.be/\\_QmoXbZmIX4](http://youtu.be/_QmoXbZmIX4)

I20-9 Time Delay (2)

[http://youtu.be/UjdExQ5\\_Hko](http://youtu.be/UjdExQ5_Hko)

I20-9 Time Delay (3)

<http://youtu.be/o0sdiL8rDVE>

## **D150+D151 Micro Controllers & Data Communication**

I020-1 Data Communication

<http://youtu.be/RTJKZmGu55s>

I020-2 LAN+PID

<http://youtu.be/VLw6wI65FSI>

I020-3 Control Loop

[http://youtu.be/Yv1I6k\\_WPHQ](http://youtu.be/Yv1I6k_WPHQ)

I020-4 Controller Operation

<http://youtu.be/wKmbt4izVm8>

I020-5 Microcontroller

<http://youtu.be/6k8HKL3sxxY>

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UEERE0012 Develop effective engineering strategies for energy reduction in buildings  
[Building\\_Design+Material\\_Science-K041+E047.zip](#)

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[Building\\_Design +Material Science](#)

[www.highlightcomputer.com/K151A\\_Energy\\_Efficient\\_Building-Mod.zip](http://www.highlightcomputer.com/K151A_Energy_Efficient_Building-Mod.zip)

[Energy Efficient Building Design Textbook 1](#)

[Energy Efficient Building Design Textbook 2](#)

[Energy Efficient Building Design Textbook 3](#)

K041+E047+K151+E080

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[www.highlightcomputer.com/Video\\_Lessons.pdf](http://www.highlightcomputer.com/Video_Lessons.pdf)

[K041 Lesson 1-Solar Design.zip](#)

<http://youtu.be/KF3jT7Wm60I>

[K041 Lesson 2-Basic psychrometric chart.zip](#)

[http://youtu.be/iVU9d2OrN\\_c](http://youtu.be/iVU9d2OrN_c)

[K041 Lesson 3-Total heat resistance.zip](#)

<http://youtu.be/QEC3CFN0C0A>

[K041 Lesson 4-U value Heat conductance calculation.zip](#)

<http://youtu.be/qJWiSnYVYwI>

[K041 Lesson 5-Glazing+Net Heat gain heat loss.zip](#)

<http://youtu.be/az4jFnDn4eQ>

[K041 Lesson 6-Shading.zip](#)

<http://youtu.be/srTWLtaPp9g>

[K041 Lesson 7-Insulation+ Thermal mass.zip](#)

[http://youtu.be/T8D\\_KeXhB2Q](http://youtu.be/T8D_KeXhB2Q)

<http://youtu.be/Ws5H152tgEo>

[K041 Lesson 8-Thermal mass insulation.zip](#)

<http://youtu.be/R5Qv2EFjUVU>

[K041 Lesson 9-Airconditioning load calculation.zip](#)

<http://youtu.be/KrHJkNwbr0I>

<http://youtu.be/mxP4thaiS88>

[K041 Lesson 10-Heat gain per day.zip](#)

<http://youtu.be/X5B99-Q6ddU>

[K041 Lesson 11-Ventilation.zip](#)

<http://youtu.be/LdCEptDVMiY>

[K041 Lesson 12-Building heating load](#)

<http://youtu.be/VDH11YbcX3c>

<http://youtu.be/FH1bPDCuLD0>

[K041 Lesson 13-Design Assessment Tools](#)

[K041 Lesson 14-Design for Australian climate.zip](#)

<http://youtu.be/6Vhv5H4Wfps>

[K041 Lesson 15-Domestic solar hot water system.zip](#)

<http://youtu.be/JCgxvzX5jHY>

[http://youtu.be/j5bfWGOS\\_zA](http://youtu.be/j5bfWGOS_zA)

[K041 Lesson 16-Energy efficiency+Lighting.zip](#)

<http://youtu.be/CVvXJj28pcg>

[K041 Lesson 17-Illumination+Smoke alarm.zip](#)

<http://youtu.be/pjMwahVLyhw>

<http://youtu.be/JBzyR-GzA>

[K041\\_Lesson\\_18-Water\\_supply.zip](#)

<http://youtu.be/-A96eUfsNU>

[K041\\_Lesson\\_19-Ventilation+Lighting\\_control.zip](#)

<http://youtu.be/CO0ClnAFT6A>

[K041\\_Lesson\\_20-Electrical\\_system\\_design.zip](#)

[http://youtu.be/KX7E\\_Nc7\\_54](http://youtu.be/KX7E_Nc7_54)

[K041\\_Lesson\\_21-Building\\_materials.zip](#)

<http://youtu.be/Gi77wNzXEj4>

<http://youtu.be/ZkgQHP0RESS>

<http://youtu.be/C6sxFVofvkE>  
<http://youtu.be/8RclI17RDkII>  
[http://youtu.be/ap0iMZ\\_Z9Qs](http://youtu.be/ap0iMZ_Z9Qs)

**The links contain the following lessons**

K041 Lesson 1-Solar Design  
 K041 Lesson 2-Basic Psychrometric  
 K041 Lesson 3-Total heat resistance  
 K041 Lesson 4-U value Heat conductance calculation  
 K041 Lesson 5-Glazing+Net Heat gain heat loss  
 K041 Lesson 6-Shading  
 K041 Lesson 7-Insulation+ Thermal mass  
 K041 Lesson 8-Thermal mass insulation  
 K041 Lesson 9-Airconditioning load calculation  
 K041 Lesson 10-Heat gain per day  
 K041 Lesson 11-Ventilation  
 K041 Lesson 12-Building heating load calculation  
 K041 Lesson 2-Basic psychrometric chart  
 K041 Lesson 13-Design assessment tools  
 K041 Lesson 14-Design for Australian climate  
 K041 Lesson 15-Domestic solar hot water system  
 K041 Lesson 16-Energy efficiency+Lighting  
 K041 Lesson 17-Illumination+Smoke alarm  
 K041 Lesson 18-Water supply  
 K041 Lesson 19-Ventilation+Lighting control  
 K041 Lesson 20-Electrical system design  
 K041 Lesson 21-Building materials

UETDRIS73 Develop engineering solutions for energy supply power transformer problems\*

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[Power Transformer -G040.zip](#)

[Power Transformer G040](#)

[www.highlightcomputer.com/G040Mod.zip](http://www.highlightcomputer.com/G040Mod.zip)

[Power Transformer](#)

G040 + IS73

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[www.highlightcomputer.com/Video Lessons.pdf](http://www.highlightcomputer.com/Video%20Lessons.pdf)

### **Power transformer**

[G040 Lesson 1 Power transformer rating 1.zip](#)

<http://youtu.be/gjWJVQAhhjA>

[G040 Lesson 1 Power transformer rating 2.zip](#)

<http://youtu.be/JonzO8JD-k4>

[G040 Lesson 2 Open circuit short circuit test.zip](#)

<http://youtu.be/Ru-KIKv40OY>

[G040 Lesson 3 Transformer regulation.zip](#)

<http://youtu.be/t6iZMwMj-B4>

[G040 Lesson 4 Power transformer connection.zip](#)

<http://youtu.be/ijg8PISDN11>

[G040 Lesson 5 Maximum efficiency.zip](#)

<http://youtu.be/Qa7l0eHTWTU>

[G040 Lesson 6 Transformer parallel operation.zip](#)

<http://youtu.be/dkRxoaozrOk>

<http://youtu.be/Sz5QY727w-8>

[G040 Lesson 7 Harmonic in transformer.zip](#)

[http://youtu.be/\\_YOIWb3e574](http://youtu.be/_YOIWb3e574)

[G040 Lesson 8 Transformer problem + auto transformer.zip](#)

<http://youtu.be/0KCschCIUjk>

[G040 Lesson 9 Transformer rating cooling connection tap changing.zip](#)

<http://youtu.be/d3XHm-wguzQ>

<http://youtu.be/XwilkZnKFeQ>

<http://youtu.be/tuOHBk840Bhw>

[G040 Lesson 10 Phase shift transformer.zip](#)

<http://youtu.be/7aWhg9DloWI>

### **The links contain the following lessons**

- G040 Lesson 1 Power transformer rating 1
- G040 Lesson 1 Power transformer rating 2
- G040 Lesson 2 Open circuit short circuit test
- G040 Lesson 3 Transformer regulation
- G040 Lesson 4 Power transformer connection
- G040 Lesson 5 Maximum efficiency
- G040 Lesson 6 Transformer parallel operation
- G040 Lesson 7 Harmonic in transformer
- G040 Lesson 8 Transformer problem + auto transformer
- G040 Lesson 9 Transformer rating cooling connection tap changing
- G040 Lesson 10 Phase shift transformer

UETDRIS74 Develop engineering solutions for energy supply system protection problems\*

60

[AE.zip](#)

[www.highlightcomputer.com/G015-AE Mod.zip](http://www.highlightcomputer.com/G015-AE%20Mod.zip)

### **Power System Protection**

[G015\(AE\)Lesson 1-Power system protection scheme.zip](#)

<http://youtu.be/lhpd3cDAhBU>

<http://youtu.be/EGXkLRM2L9M>

<http://youtu.be/zOIUYQ7OJfs>

[G015\(AE\)Lesson 2-Differential relay.zip](#)

<http://youtu.be/2iW0oEScMsw>

[G015\(AE\)Lesson 3-Over current & earth fault protection.zip](#)

<http://youtu.be/hvGjdO9jEhk>

[G015\(AE\)Lesson 4-Three phase differential relay.zip](#)

<http://youtu.be/2iW0oEScMsw>

<http://youtu.be/VuzjXkRx4UI>

<http://youtu.be/2iW0oEScMsw>

[G015\(AE\)Lesson 5-Current time grading.zip](#)

<http://youtu.be/r0gkLrmkKsM>

G015AE Lesson 6

[http://youtu.be/lnsTLh7\\_N5k](http://youtu.be/lnsTLh7_N5k)

[G015\(AE\)Lesson 7-CT\\_PT.zip](#)

[http://youtu.be/ZF\\_y65xsM\\_M](http://youtu.be/ZF_y65xsM_M)

[G015\(AE\)Lesson 8-Distance relay.zip](#)

<http://youtu.be/NKzMVquFLu8>

[G015\(AE\)Lesson 9-Telecom in power protection.zip](#)

<http://youtu.be/9C6gggZAKRg>

[http://youtu.be/XRpfA6hU\\_U](http://youtu.be/XRpfA6hU_U)

<http://youtu.be/X-kz3cyL9fU>

Click [HERE](#) to download the Exercises

[http://www.mongroupsdney1.com/Advanced\\_Diploma\\_in\\_Electrical\\_Engineering\\_Exercises\\_EE011.pdf](http://www.mongroupsdney1.com/Advanced_Diploma_in_Electrical_Engineering_Exercises_EE011.pdf)

Physics+ Advanced Power System Exercise

**G037+38+39+E046 Video Lesson Exercises.pdf (0.46MB)**

Click [HERE](#) to download the exercises

[Material Science Tutorial](#)

**(3)DOWNLOAD LINK FOR PRACTICAL**

Click [HERE](#) to download the all engineering practicals

**Practical**

<https://mega.nz/folder/4dYwVSwJ#O7rfDaiJQhzRPBc10HGbXA>

**Form 180 ETAB+REVIT**

[www.iqytechnicalcollege.com/etabrevit.htm](http://www.iqytechnicalcollege.com/etabrevit.htm)

**Form 181 M & E Software**

[www.iqytechnicalcollege.com/M&ESoftware.htm](http://www.iqytechnicalcollege.com/M&ESoftware.htm)

[www.iqytechnicalcollege.com/VideoDownloadZip.htm](http://www.iqytechnicalcollege.com/VideoDownloadZip.htm)

**Form 182 CAM/CNC/Master CAM**

[www.iqytechnicalcollege.com/mastercam.htm](http://www.iqytechnicalcollege.com/mastercam.htm)

[www.iqytechnicalcollege.com/VideoDownloadZip.htm](http://www.iqytechnicalcollege.com/VideoDownloadZip.htm)

## Form 183 Bachelor of Engineering (Computer Aided Engineering)

[www.iqytechnicalcollege.com/BTechBECAE.htm](http://www.iqytechnicalcollege.com/BTechBECAE.htm)

[www.iqytechnicalcollege.com/VideoDownloadZip.htm](http://www.iqytechnicalcollege.com/VideoDownloadZip.htm)

## UEE62122 Advanced Diploma of Engineering Technology Electrical

### ALL ASSESSMENTS TASKS

[http://www.iqytechnicalcollege.com/UEE62122 Advanced Diploma in Engineering Technology-  
Electrical+UEE62220 Exercises.pdf](http://www.iqytechnicalcollege.com/UEE62122%20Advanced%20Diploma%20in%20Engineering%20Technology-%20Electrical+UEE62220%20Exercises.pdf)

UEECD0005 Physics

[http://www.iqytechnicalcollege.com/Advanced Diploma in Electrical Engineering UEECD0005 Physics  
Exercises.pdf](http://www.iqytechnicalcollege.com/Advanced%20Diploma%20in%20Electrical%20Engineering%20UEECD0005%20Physics%20Exercises.pdf)

+

Relevant Exercises in

[www.iqytechnicalcollege.com/el.htm](http://www.iqytechnicalcollege.com/el.htm)

and the assessment tasks under the lessons on this page

### Packaging Rules

A total of **2160 weighting points** comprising:

**1200 core weighting points** listed below; plus

**960 general elective weighting points** from the general elective units listed below.

Choose a total of **960 weighting points** elective units from the list below, of which between **0 and 440 weighting points** can be taken from **weighting points** can be taken from Group B; between **0 and 300 weighting points** can be taken from Group C; between **0 and 300 weight** Group D; and between **200 and 960 weighting points** can be taken from Group E (or all **960 elective weighting points** can be taken from C

Up to **360 weighting points** of the general elective units Group A, may be selected, with appropriate contextualisation, from any relevant ne Package or accredited course, provided selected units contribute to the vocational outcome of the qualification. Previously assigned weightin UEE Electrotechnology Training package Companion Volume Implementation Guide (CVIG), if not listed weighting points will be 10 point Electrotechnology Industry Reference Committee (IRC).

There are units of competency within this qualification that contain pre-requisites. Units of competency that have a pre-requisite requirement symbol \*. Refer directly to the units of competency to identify pre-requisite requirements to ensure all are complied with. A list of all pre-re the UEE Pre-requisite Companion Volume.

Where imported units are selected, care must be taken to ensure all pre-requisite units specified are complied with.

Core units

<https://www.iqytechnicalcollege.com/electricaldiploma2023.htm#Z3>

Core units	Points
UEECD0003 Apply industry and community standards to engineering activities	20
UEECD0056 Apply methods to maintain currency of industry developments	50

[E083 Electro-technology Competency Development](#)

<http://www.mongroupsdney1.com/E083.pdf>

[E083 Electro-technology Competency Development](#)

(Electronics)

<http://www.mongroupsdney1.com/E083Electronics.pdf>

PLUS

From Group B

UEECD0017 Establish and follow a competency development plan 120 in an electrotechnology engineering discipline

UEECD0004 Apply material science to solving electrotechnology engineering problems

## Materials

### E081 Class Lessons

### E081 Material Science

### Non Metallic Materials

### RE010-Engineering Materials

#### Day 10 Part 1

[RE010 ENMAT101A Engg Mat Processes1](#)

[RE010 ENMAT101A Engg Mat Processes1A](#)

[RE010 ENMAT101A Engg Mat Processes2](#)

[RE010 ENMAT101A Engg Mat Processes3](#)

[RE010 ENMAT101A Engg Mat Processes](#)

#### **Day 10 Part 1**

### **RE010-Engineering Materials**

[www.highlightcomputer.com/Day\\_10\\_Part\\_1-RE010-Engineering\\_Materials.zip](http://www.highlightcomputer.com/Day_10_Part_1-RE010-Engineering_Materials.zip)

#### **Day 10 Part 1**

### **RE010 Engineering Materials**

1 Properties of materials  
 2 metals  
 3 polymers  
 4 thermoplastics  
 5 ceramics  
 6 chemical bonding  
 7 ionic bond  
 8 metallic bond  
 9 covalent bond  
 10 production  
 13 strength  
 15 electrical properties  
 16 thermal properties  
 19 durability  
 20 corrosion resistance  
 22 force extension diagram,  
 23,24 25 carbon steel  
 26 brinell hardness test  
 34 fatigue testing  
 35 safety factor  
 36 casting  
 47 carbon state change diagram, 50  
 64 nickel copper equilibrium diagram 67  
 85, 86 smelting  
 86 steel manufacturing  
 87 electric arc furnacing  
 119,120 heat treatment  
 122 alloying  
 140 induction hardening 159  
 176 polyethylene  
 177 polyvinyl chloride  
 195 hardness test  
 209 ceramic  
 201 glass  
 231 mortar

240 matrix materials  
247 welding  
266 service requirement 267

**10 RE010-Engineering Materials**

[www.iqytechnicalcollege.com/RE010.zip](http://www.iqytechnicalcollege.com/RE010.zip)

ASSIGNMENT

Page 48 to 61 of

[www.highlightcomputer.com/BEGeneralREAssignment.pdf](http://www.highlightcomputer.com/BEGeneralREAssignment.pdf)

UEECD0005 Apply physics to solving electrotechnology engineering problems

Foundation Physics

Physics 1Physics-E046 Part 2.zipPhysics E046 Part 2[http://highlightcomputergroup4.zoomshare.com/files/PhysicsE046\\_Part\\_2.zip](http://highlightcomputergroup4.zoomshare.com/files/PhysicsE046_Part_2.zip)

E046/ E082

Page 58 to 86 of

[www.highlightcomputer.com/Video\\_Lessons.pdf](http://www.highlightcomputer.com/Video_Lessons.pdf)**Physics****The links contain the following lessons**

E046 Lesson 1-Motion along straight line

<http://youtu.be/rDB2U1Mq-6Q>

E046 Lesson 2-Constant acceleration

<http://youtu.be/QPsYstfzcl><http://youtu.be/pr4YL41j4Bc><http://youtu.be/1B7CBmldoVo>

E046 Lesson 3-Vector

<http://youtu.be/YHO0ITJj5Tc>

E046 Lesson 4-Vector + Force Mass Acceleration

<http://youtu.be/hghrcG-9XVk><http://youtu.be/ENIO1SQDOn0>

E046 Lesson 5-Uniform circular motion

<http://youtu.be/YPXqG59UjE><http://youtu.be/XYI6Kz1kajs>

E046 Lesson 6-Energy

<http://youtu.be/AG3P0UXrFBY>

E046 Lesson 7-Centre of mass

<http://youtu.be/EY8rM9MSE1k>

E046 Lesson 8-Rotation

<http://youtu.be/-V9f-2h0gNU>

E046 Lesson 9-Kinetic Energy of rotation

<http://youtu.be/D7ZsVZ44NnI>

E046 Lesson 10-Equilibrium

<http://youtu.be/YtJmMWJIZqI>

E046 Lesson 11-Fluid

<http://youtu.be/hQN2eyQfEeY>

E046 Lesson 12-Thermal expansion

<http://youtu.be/EM0DmVWSv8k>

E046 Lesson 13-Gases

<http://youtu.be/NAeTsvVWeJY><http://youtu.be/E7B8-JLflB8>

E046 Lesson 14-Heat temperature wave

<http://youtu.be/Th84r-BklZM>

E046 Lesson 15-Harmonic motion

<http://youtu.be/c68ku5HngBsA><http://youtu.be/tbEm7vieTMA>

E046 Lesson 16-Transverse wave

<http://youtu.be/2O6P7AJ3Xqc>

E046 Lesson 17-Wave and sound

<http://youtu.be/7Xh9QvDwbiv>

E046 Lesson 18-Light and photon

<http://youtu.be/qm5fihQaF8I><http://youtu.be/s5Q5XT-JihE>

E046 Lesson 19-Electric field

<http://youtu.be/WiePDh42cXE>

E046 Lesson 20-Magnetic field

<http://youtu.be/Hq1EhUqg85M><http://youtu.be/f7ZGb-FhWSo>

E046 Lesson 21-Faraday law of induction

[http://youtu.be/Rj7DeNq\\_GhA](http://youtu.be/Rj7DeNq_GhA)<http://youtu.be/HWZZURK40vl><http://youtu.be/S8kxTHkptU8>

E046 Lesson 22-Magnetic deflection+Atom

<http://youtu.be/sUdGmpv6pT4><http://youtu.be/rxalu9LOWHg>

E046 Lesson 23-Nuclear physics principle

<http://youtu.be/NHajZL3Q-I><http://youtu.be/h2xG0E3v450>

E046 Lesson 24-Nuclear spin+ Nuclear activity and decay

[http://youtu.be/zsJL5WC\\_uTM](http://youtu.be/zsJL5WC_uTM)

E046 Lesson 25-Nuclear model

<http://youtu.be/e4NzxFCbrMM>

## E046 Lesson 26-Nuclear power generation

<http://youtu.be/i2BF9e9DBI0>

## E046 Lesson 27-Nuclear fusion

<http://youtu.be/g-V6APCehOU><http://youtu.be/tfh6qfufguU>

UEECD0007 Apply work health and safety regulations, codes and practices in the workplace

[UEENEEE101A](#)

PLUS

UEECD0024 Implement and monitor energy sector WHS policies and procedures

From Group C

UEECD0016 Document and apply measures to control WHS risks associated with electrotechnology work\*

From Group B

UEECD0010 Compile and produce an energy sector detailed report

[Electrical Report](#)[Report Writing](#)

UEECD0014 Develop design briefs for electrotechnology projects

Manage large electrical projects\*

UEEEL0015

Manage risk in electrotechnology activities

UEECD0026

UEEEL0058 Plan large electrical projects\*

UEECD0059	Write specifications for electrical engineering projects PLUS
UEECO0001	Estimate electrotechnology projects From Group C

[www.highlightcomputer.com/E01124G069G070Mod.zip](http://www.highlightcomputer.com/E01124G069G070Mod.zip)

[Project+Risk-E011+E017+G070+G069](#)

### **Project Specification+ Variation**

[E071MEM09004](#)

**Risk Management**

[Project Risk Assessment and Management](#)

**Electrical Risk Assessment**

[http://www.mongroupsdney1.com/Electrical\\_Risk\\_Assessment.pdf](http://www.mongroupsdney1.com/Electrical_Risk_Assessment.pdf)

[Project Management +Specification Delivery & Assessment Plan](#)

<http://www.mongroupsdney1.com/ProjectManagementSpecificationDeliveryandAssessmentPlan.doc>

**Risk Analysis**

**Electrical Specifications**

E011+E017+ E117+E137

Page 9 to 13 of

[www.highlightcomputer.com/Video\\_Lessons.pdf](http://www.highlightcomputer.com/Video_Lessons.pdf)

### **Risk analysis +OHS Information**

<http://www.filefactory.com/file/cf8750b/n/E011+E017.zip>

**The links contain the following lessons**

E011+E017 Lesson 1 Hazards of electricity

<http://youtu.be/u7hZkdSDWxl>

E011+E017 Lesson 2 Low voltage safety

<http://youtu.be/O9C0S5vzpy4>

<http://youtu.be/DILqJf5gNEQ>

<http://youtu.be/8fjcP8MEffl>

E011+E017 Lesson 3 Safety procedure & methods

<http://youtu.be/DRdri7ZJUfw>

E011+E017 Lesson 4 Electrical installation safety

<http://youtu.be/ZsrZpukbAQw>

E011+E017 Lesson 5 Installation safety

<http://youtu.be/NVBqjDWmeX0>

E071+G069+G070 + G169+G170

Page 102 to 127 of

[www.highlightcomputer.com/Video\\_Lessons.pdf](http://www.highlightcomputer.com/Video_Lessons.pdf)

### **Project Specifications+ Project Planning**

**The links contain the following lessons**

E071+G069+G070 Lesson 1 Project management planning

<http://youtu.be/VNe56RYAPyg>

E071+G069+G070 Lesson 2 NSW service rule+Marketing

<http://youtu.be/6D88EoKTXFA>

<http://youtu.be/tdr9z5WZq2w>

E071+G069+G070 Lesson 3+4 Contract planning + HV conductor

<http://youtu.be/k7yuQq7juNk>

<http://youtu.be/RyS31r1aOWQ>

E071+G069+G070 Lesson 5 Project modelling

<http://youtu.be/7gO57AHY-tk>

<http://youtu.be/hcVELYNVYw>

E071+G069+G070 Lesson 6 Job planning

[http://youtu.be/QDr6ar\\_ZYmk](http://youtu.be/QDr6ar_ZYmk)

<http://youtu.be/bsBVQFUIGp8>

E071+G069+G070 Lesson 7 Line infrastructure + Material planning

<http://youtu.be/x8-gdp3sP8Q>

E071+G069+G070 Lesson 8 Problem solving and decision making

<http://youtu.be/Khg1pnkBcQo>  
E071+G069+G070 Lesson 9 Control of project+Maintenance specialist work  
<http://youtu.be/eKuW5um3SR0>

<http://youtu.be/AA684uXyv48>

<http://youtu.be/6NG2Qzg4MMg>  
E071+G069+G070 Lesson 10 Contract bid work  
<http://youtu.be/4O9nAOmd4Qg>

E071+G069+G070 Lesson 11 Project structure  
<http://youtu.be/ljbpjnsVNG4>

E071+G069+G070 Lesson 12 Analysing plan+ Insurance  
[http://youtu.be/\\_x3oQvuAGq8](http://youtu.be/_x3oQvuAGq8)

<http://youtu.be/dMUAa10A-4w>  
E071+G069+G070 Lesson 13 Modelling project  
<http://youtu.be/FJBVycx0vTM>

E071+G069+G070 Lesson 14 Project costing+Contracting paper work  
<http://youtu.be/pOke86sLrzw>

<http://youtu.be/2RwrkL0Phb0>

<http://youtu.be/l7nh4pZqnsW>  
E071+G069+G070 Lesson 15 Change control  
<http://youtu.be/9JR-yJx1D0w>

E071+G069+G070 Lesson 16 Management leadership+Job accounting  
<http://youtu.be/EYuy1zKJ72k>

<http://youtu.be/Ay2DyulvVhk>  
E071+G069+G070 Lesson 17 Management thinking+Contract management planning  
<http://youtu.be/OLzgzKq5hu8>

<http://youtu.be/nrfqVQ7omfk>

UEECD0036 Provide engineering solutions for problems in complex multiple path circuits

[Circuit G048+E025.zip](#)

[Circuit G048+E025](#)

[www.highlightcomputer.com/Circuit\\_G048E025G049-Mod.zip](http://www.highlightcomputer.com/Circuit_G048E025G049-Mod.zip)

[Electrical Circuits 1](#)[Electrical Circuits 2](#)

E025/ G048/ E125

Page 14 to 25 of

[www.highlightcomputer.com/Video Lessons.pdf](http://www.highlightcomputer.com/Video%20Lessons.pdf)**[Advanced Electrical Circuits](#)**<http://www.filefactory.com/file/cf8775d/n/E025.zip>**The links contain the following lessons**

E025 Lesson 1 Resonance

<http://youtu.be/U16XZnaB4hE><http://youtu.be/1cVPmMr93y4>

E025 Lesson 2 Non sinusoidal Circuits

<http://youtu.be/Kq9t-t8DQ8Q><http://youtu.be/-LMhXfIMROk><http://youtu.be/s5kdChawoDU>

E025 Lesson 3 Pulse Waveform+RC Response

<http://youtu.be/95fJ9lp8fA>

E025 Lesson 4 Transformer

<http://youtu.be/UJlrgc6oTMA><http://youtu.be/r5BupGRKPIs><http://youtu.be/vKzTklTuAVo>

E025 Lesson 5 Decibel+Filter

[http://youtu.be/-6WoZ1w9\\_Y](http://youtu.be/-6WoZ1w9_Y)

E025 Lesson 6 Filter+Bode Plot

[http://youtu.be/7R1xjy4W\\_gc](http://youtu.be/7R1xjy4W_gc)<http://youtu.be/FXloCpLJual>**[Power circuit analysis](#)****[G048 Lesson 1 Mesh analysis+Source conversion.zip](#)****Mesh Analysis**<http://youtu.be/MM--ZGqjI8A><http://youtu.be/HwFQSLXlcm0>**Source Conversion**<http://youtu.be/xwxbTZeYnJs><http://youtu.be/qyZ68VSC8v4><http://youtu.be/UdurkaaTqGk><http://youtu.be/vYMF-nDwgVWM>[http://youtu.be/\\_2uCwn8BFZ8](http://youtu.be/_2uCwn8BFZ8)[http://youtu.be/Qwx\\_jPA0eAI](http://youtu.be/Qwx_jPA0eAI)<http://youtu.be/ZPb8ejKe7Wo><http://youtu.be/AVqjZVJfuKY>**[G048 Lesson 2 Thevenin Theorem.zip](#)**<http://youtu.be/oKxZfnFOAgw><http://youtu.be/JoZdLTEUoPQ>**[G048 Lesson 3 Nodal Analysis.zip](#)**<http://youtu.be/ScVou22hBlc><http://youtu.be/s3Zy2ggfzuY>**[G048 Lesson 4 Superposition Theorem.zip](#)**<http://youtu.be/iE69o2ftK3U>

<http://youtu.be/zF99nhpnhGU>

<http://youtu.be/5lyfyULbrqA>

#### [G048 Lesson 5 AC Network Analysis.zip](#)

<http://youtu.be/acETIYails0>

<http://youtu.be/Y2WnzmgF1Ug>

<http://youtu.be/n-Yj9gGw5uk>

#### [G048 Lesson 6 Transient Circuit.zip](#)

<http://youtu.be/MErtK1jW5Ws>

<http://youtu.be/lKypSKrDnwQ>

<http://youtu.be/pzUmVzl6RU>

#### **The links contain the following lessons**

G048 Lesson 1 Mesh analysis+ Source conversion

G048 Lesson 2 Thevenin Theorem

G048 Lesson 3 Nodal Analysis

G048 Lesson 4 Superposition Theorem

G048 Lesson 5 AC Network Analysis

G048 Lesson 6 Transient Circuit

UEECD0039 Provide solutions to basic engineering computational problems\*

[www.highlightcomputer.com/Maths1E050G047Mod.zip](http://www.highlightcomputer.com/Maths1E050G047Mod.zip)

[www.iqytechnicalcollege.com/Maths 2-E026 Mod.zip](http://www.iqytechnicalcollege.com/Maths 2-E026 Mod.zip)

[Engineering Maths 1](#)

[Engineering Maths 2](#)

[Engineering Maths Calculus Textbook](#)

[Engineering Maths 3](#)

[Engineering Maths 4](#)

[Foundation Mathematics](#)

E050/E126

Page 87 to 101

[www.highlightcomputer.com/Video Lessons.pdf](http://www.highlightcomputer.com/Video Lessons.pdf)

#### **[Mathematics](#)**

**[E050Part1.zip](#)**

**Lesson 1**

<http://youtu.be/67MNUQMIkKw>

<http://youtu.be/GMrOtiVGcSg>

**Lesson 2**

<http://youtu.be/GMrOtiVGcSg>

**Lesson 3**

<http://youtu.be/3MnPK4HC0oc>

**Lesson 4**

<http://youtu.be/4Qiv5gvcxG0>

**Lesson 5**

<http://youtu.be/NJFYPLXjNDM>

**Lesson 6**

<http://youtu.be/Ejr9Genn5ZM>

**[E050 Lesson 7 Mensuration+Area.zip](#)**

<http://youtu.be/PSdB3--AHZM>

[E050 Lesson 8 Differentiation.zip](#)

<http://youtu.be/rLmLY8fj2l8>

[http://youtu.be/VLhQD\\_wrWY8](http://youtu.be/VLhQD_wrWY8)

[E050 Lesson 9 Integration.zip](#)

[http://youtu.be/ax\\_k2-qvhpA](http://youtu.be/ax_k2-qvhpA)

[E050 Lesson 10 Integration of trigo functions.zip](#)

<http://youtu.be/Xp6RiXES0qs>

[E050 Lesson 11 Definite integral+Electrical application.zip](#)

<http://youtu.be/GS26UxVilPA>

<http://youtu.be/AYXF8n4yM>

[E050 Lesson 11 Exercises.zip](#)

**The links contain the following lessons**

E050 Lesson 1 Polynomials  
 E050 Lesson 2 Non linear equations  
 E050 Lesson 3 Logarithmic equation  
 E050 Lesson 4 Circular function  
 E050 Lesson 5 Trigonometric identities  
 E050 Lesson 6 Vector  
 E050 Lesson 7 Mensuration+Area  
 E050 Lesson 8 Differentiation  
 E050 Lesson 9 Integration  
 E050 Lesson 10 Integration of trigo functions  
 E050 Lesson 11 Definite integral+Electrical application  
 E050 Lesson 11 Exercises

E026/E127

40

Page 26 to 50 of

[www.highlightcomputer.com/VideoLessons.pdf](http://www.highlightcomputer.com/VideoLessons.pdf)

**Engineering Mathematics**

**E026 Lesson 1 to 5**

**The links contain the following lessons**

E026 Lesson 1-Fourier

[https://www.youtube.com/watch?](https://www.youtube.com/watch?v=QzYO2qCJGNg)

[v=QzYO2qCJGNg](https://www.youtube.com/watch?v=QzYO2qCJGNg)

<http://youtu.be/fGL7VYtEBV4>

E026 Lesson 2-Differential equation

<http://youtu.be/RjhgggxG2p0>

E026 Lesson 3-Gamma+Beta Function

[http://youtu.be/D-bUQ1Uyl\\_Y](http://youtu.be/D-bUQ1Uyl_Y)

<http://youtu.be/6rNFJbbqzyl>

E026 Lesson 4-Vector analysis

<http://youtu.be/T9OYT8RpqbA>

E026-Lesson 5-Laplace Transform

**Links**

E026 Harmonic Exercises

[https://www.youtube.com/watch?](https://www.youtube.com/watch?v=VSdug1mECDE)

[v=VSdug1mECDE](https://www.youtube.com/watch?v=VSdug1mECDE)

**E026 Definite Integral**

[https://www.youtube.com/watch?](https://www.youtube.com/watch?v=oa127HPNvha)

[v=oa127HPNvha](https://www.youtube.com/watch?v=oa127HPNvha)

**E026 Harmonics**

<https://www.youtube.com/watch?>

[v=yFM7a j xKnXw  
http://youtu.be/d5drjXEZKv0](http://youtu.be/d5drjXEZKv0)

<http://youtu.be/NDUvNSO6il8>

<http://youtu.be/d5drjXEZKv0>

**E026 Multiple Integral**

<http://youtu.be/amV5KiBi0jk>

<http://youtu.be/lAKJvYUTPiI>

E026-Lesson 6-Inverse Laplace+  
Differential equation solution  
[http://youtu.be/yXulBjEl\\_2w](http://youtu.be/yXulBjEl_2w)

<http://youtu.be/SPGeFn2icU0>

<http://youtu.be/4VLHZp6joYg>

<http://youtu.be/bYkylGd17PU>

<http://youtu.be/GrYcm8FzAMY>  
E026-Lesson 7-Matrices  
<http://youtu.be/99cNSVx4hgU>

<http://youtu.be/ztHu2UYwA5c>

[http://youtu.be/m\\_7oVILNSsl](http://youtu.be/m_7oVILNSsl)

<http://youtu.be/5hq-ZfZdCRI>

E026-Lesson 8 Legendre Function  
<http://youtu.be/VWwysJQIgrs>  
E026-Lesson 9 Binomial Theorem+ Partial  
Differential equation  
<http://youtu.be/Nj4dWucl50>  
E026-Lesson 10 Multiple Integral  
<http://youtu.be/amV5KiBi0jk>

UEECD0044 Solve problems in multiple path circuits\*

UEECD0046 Solve problems in single path circuits \*

[UEENEEE104A](#)

x

[E083 Electro-technology Competency Development](#)

<http://www.mongroupsdney1.com/E083.pdf>

[E083 Electro-technology Competency Development \(Electronics\)](#)

<http://www.mongroupsdney1.com/E083Electronics.pdf>

UEECD0064 Interpret, produce and modify electrotechnology drawings

[UEENEEE107A](#)

UEEEL0019 Solve problems in direct current (d.c.) machines\*

UEEEL0021 Solve problems in magnetic and electromagnetic devices\*

[UEENEEL101A](#)

UEEEL0020 Solve problems in low voltage a.c. circuits\*

[UEENEEL102A](#)

UEEEL0062 Provide engineering solutions to problems in complex polyphase power circuits\*

Provide engineering solutions to problems in complex polyphase power circuits\*

[www.highlightcomputer.com/Circuit\\_G048E025G049-Mod.zip](http://www.highlightcomputer.com/Circuit_G048E025G049-Mod.zip)

3 Phase Circuits

G049+G149

Page 363 to 373 of

[www.highlightcomputer.com/Video\\_Lessons.pdf](http://www.highlightcomputer.com/Video_Lessons.pdf)

Three phase system

G049 Lesson 1 Basic three phase circuit.zip

<http://youtu.be/l28eE1Te55U>

G049 Lesson 2 Three phase star delta.zip

<http://youtu.be/BX3-ht6DWTI>

<http://youtu.be/wlJucGbdHll>

G049 Lesson 3 Three phase power measurement.zip

<http://youtu.be/Q6kbCDGTUAI>

G049 Lesson 4 Three phase 4 wires unbalanced load.zip

<http://youtu.be/Ptfn5RCjdgq>

G049 Lesson 5 Three phase 3 wires unbalanced load.zip

<http://youtu.be/uDPUhOq5qb8>

G049 Lesson 6 Three phase power by 2 watt meters.zip

<http://youtu.be/Al6iojMH32c>

G049 Lesson 7 Three phase fault.zip

[http://youtu.be/lBWl\\_s58Qyc](http://youtu.be/lBWl_s58Qyc)

G049 Lesson 8 Three phase fault calculation table.zip

[http://youtu.be/55ps\\_sdYQ5k](http://youtu.be/55ps_sdYQ5k)

G049 Lesson 9 Fault calculation.zip

<http://youtu.be/cr-1MR9HHow>

G049 Lesson 10 Sequence network.zip

<http://youtu.be/Z1MwCBY0SO4>

<http://youtu.be/7epZP1-0hts>

**The links contain the following lessons**

G049 Lesson 1 Basic three phase circuit

G049 Lesson 2 Three phase star delta

G049 Lesson 3 Three phase power measurement

G049 Lesson 4 Three phase 4 wires unbalanced load

G049 Lesson 5 Three phase 3 wires unbalanced load

G049 Lesson 6 Three phase power by 2 watt meters

G049 Lesson 7 Three phase fault

G049 Lesson 8 Three phase fault calculation table

G049 Lesson 9 Fault calculation

G049 Lesson 10 Sequence network

UEEEL0077 Evaluate and report on the performance of LV machines \*

[UEENEEG006A-Motor](#)

[UEENEEG006A-Transformer](#)

UEEEL0079 Plan and analyse LV electrical apparatus

<https://www.iqytechnicalcollege.com/UEE30820VideoLessons.htm#G033A>

[G033+G063+G107 \(Week 1 to 6 Lessons\)\(G033\)](#)

[G033 Hot Water System](#)

[G106+G033 Practical](#)

[G033+G063+G107 Week 10 to 15](#)

<https://www.iqytechnicalcollege.com/electricaltrade2022.htm#G033A>

UEEEL0080 Plan and analyse wiring systems, circuits, control and protection for electrical installations

<https://youtu.be/kYayFVaq5sA>

<https://www.iqytechnicalcollege.com/electricaltrade2022.htm#G063A>

UEERE0013 Develop strategies to address environmental and sustainability issues in the energy sector

<https://www.iqytechnicalcollege.com/electricaltrade2022.htm#K142A>

<https://youtu.be/2u21YBb2454>

<https://youtu.be/IPtJMsrTvS4>

Choose a total of **960 weighting points** elective units from the list below, of which between **0 and 440 weighting points** can be taken from Group A; between **0 and 300 weighting points** can be taken from Group B; between **0 and 300 weighting points** can be taken from Group C; between **0 and 300 weighting points** can be taken from Group D; and between **200 and 960 weighting points** can be taken from Group E (or all **960 elective weighting points** can be taken from Group E)

After core units, all core units PLUS 120 points from Group B will be completed

Remaining points

$$960 - (120 + 60 + 20) = 760$$

**0 and 440 weighting points** can be taken from Group A  
100 points

UEECD0019 Fabricate, assemble and dismantle utilities industry components\* 40

UEECD0020 Fix and secure electrotechnology equipment\* 20

<https://www.iqytechnicalcollege.com/electricaltrade2022.htm#E102A>  
<https://youtu.be/kTgyFrbcM4c>

Workshop UEECD0007+0019+0020+E101+102+105

[https://youtu.be/RoxAULO\\_Du4](https://youtu.be/RoxAULO_Du4)

UEECD0051 Use drawings, diagrams, schedules, standards, codes and specifications\* 40

<https://youtu.be/rA3NiYWBEpg>

<https://www.iqytechnicalcollege.com/electricaltrade2022.htm#E107A>

Remaining points = 760-100= 660

between **0 and 300 weighting points** can be taken from Group B  
120 points

**Weighting  
Points**

MEM30027A Prepare basic programs for programmable logic controllers 40

<https://www.iqytechnicalcollege.com/electricaltrade2022.htm#PLC>

UEECD0025 Lay wiring/cabling and terminate accessories for extra-low voltage (ELV) circuits\* 40

<https://www.iqytechnicalcollege.com/UEE30820VideoLessons.htm#G106A>

<https://www.iqytechnicalcollege.com/electricaltrade2022.htm#G106A>

UEEE0075 Troubleshoot single phase input d.c power supplies\* 40

[http://www.highlightcomputer.com/AmplifierPower\\_SupplyDigital\\_Mod.zip](http://www.highlightcomputer.com/AmplifierPower_SupplyDigital_Mod.zip)

<http://highlightcomputergroup4.zoomshare.com/files/H011.zip>

**DC Power supplies**

H011 Lesson 1 DC Power supply.principle.zip

<http://youtu.be/S1no7ZshUwA>

H011 Lesson 2 Load regulation.zip

<http://youtu.be/9yCpkrbJdtQ>

[H011 Lesson 3 Current limiter.zip](#)<http://youtu.be/fV2cEqYot74><http://youtu.be/qy9TXslvE1E>**The links contain the following lessons**

H011 Lesson 1 DC Power supply principle

H011 Lesson 2 Load regulation

H011 Lesson 3 Current limiter

Remaining points = 660-120= 540 OR 520-120=400

**If Telecom units are selected**

UEEDV0005	Install and maintain cabling for multiple access to telecommunication services*	80
UEEDV0008	Install, modify and verify coaxial and structured communication copper cabling*	40

Required Points = 400 to 520

Group C- 120

Group D- 120

Group E- 360

Total C+D+E= 600

between 0 and 300 weighting points can be taken from Group C; 120 points Points left 540-120=420	<b>Weighting Points</b>
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UEERE0061 Design grid-connected photovoltaic power supply systems\*

60

Page 491 to 501 of  
[www.highlightcomputer.com/Video Lessons.pdf](http://www.highlightcomputer.com/Video%20Lessons.pdf)

**Renewable Energy+ Photovoltaic Inverter**[K035 Lesson 1-Inverter principle.zip](#)<http://youtu.be/-rdOuZBoCZI>[K035 Lesson 2-Modified sine wave inverter.zip](#)<http://youtu.be/QOFpzhUg0l0>[K035 Lesson 3-Pulse width modulation.zip](#)<http://youtu.be/NE95TgkrLQA>[K035 Lesson 4-PV Inverter.zip](#)<http://youtu.be/WcxxGQlxpgM><http://youtu.be/gkOA2T7qwGk>[K035 Lesson-5 MOSFET Driver.zip](#)<http://youtu.be/K4AzSAvFl6I>[K035 Lesson-6 PWM Inverter.zip](#)

[http://youtu.be/Lc\\_PC44lgLl](http://youtu.be/Lc_PC44lgLl)

[K035 Lesson-7 Grid Connected Inverter.zip](#)

<http://youtu.be/5m4SzA2CeRA>

<http://youtu.be/pWQMLkaUfhQ>

[K035 Lesson-8 Inverter Power Flow Model.zip](#)

<http://youtu.be/wctgCncrZw>

**The links contain the following lessons**

K035 Lesson 1-Inverter principle  
 K035 Lesson 2-Modified sine wave inverter  
 K035 Lesson 3-Pulse width modulation  
 K035 Lesson 4-PV Inverter  
 K035 Lesson-5 MOSFET Driver  
 K035 Lesson-6 PWM Inverter  
 K035 Lesson-7 Grid Connected Inverter  
 K035 Lesson-8 Inverter Power Flow Model  
[Renewable Energy-K025+K035.zip](#)

[http://highlightcomputergroup4.zoomshare.com/files/Renewable\\_EnergyK025K035\\_Mod.zip](http://highlightcomputergroup4.zoomshare.com/files/Renewable_EnergyK025K035_Mod.zip)

[Renewable Energy\\_K025+K035](#)

UEERE0060 Design grid-connected battery storage systems\*

60

## Energy Storage Systems

### [Energy Storage Systems \(Myanmar+English\)](#)

**Topics-Principle, Power Grid Energy Storage Devices, Redox Battery, Hydrogen Cell Battery**

#### RE004- Energy Storage Systems

[www.highlightcomputer.com/Day 8 Part 1A-RE004- Energy Storage Systems.zip](http://www.highlightcomputer.com/Day 8 Part 1A-RE004- Energy Storage Systems.zip)

##### Day 8 Part 1A

##### RE004 Energy Storage System

Storage& density Page 1,4,6  
 Page 7-System, Page 8 Storage management Page 10  
 Frequency regulation Page 12 Voltage Page 16  
 Distribution network energy storage Page 18  
 Energy storage retailer Page 23, 24, 25, 29, 30, 31,32,35,37,38,41,42,43,44

[www.highlightcomputer.com/Day 8 Part 1B-RE006- Wind Energy Conversion Systems.zip](http://www.highlightcomputer.com/Day 8 Part 1B-RE006- Wind Energy Conversion Systems.zip)

### LESSON NOTES

#### Energy Storage Systems

[www.iqytechnicalcollege.com/RE004.zip](http://www.iqytechnicalcollege.com/RE004.zip)

#### ASSIGNMENT

Page 19 to 30 All questions of

[www.highlightcomputer.com/BEGeneralREAssignment.pdf](http://www.highlightcomputer.com/BEGeneralREAssignment.pdf)

0 and 300 weighting points can be taken from Group D	Weighting Points
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120 points Points left =420-120=300	
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UEERE0064 Design renewable energy heating systems\*

## Solar and Thermal Energy Systems

5.RE003

### [Solar and Thermal Energy Systems 1 \(Myanmar+English\)](#)

Topics-Solar Energy & Thermal Conversion

### [Solar and Thermal Energy Systems 2 \(Myanmar+English\)](#)

Topics-Heat Exchanger, District Heating, Combined Heat & Power

### [Solar and Thermal Energy Systems 3 \(Myanmar+English\)](#)

Topics-Domestic Solar Heating & Cooling, Earth Heat Reservoir

#### Day 7 Part 1

#### RE003 Solar & Thermal Energy System

Slide

1,2,5,6,9,11,14,15,20,21,24,25,31,33,35,37,39,42,44,46,47,53,57,58,61,63,69,71,73,77,100,117,118,122,123,126,130,137,1

Solar energy+ Measurement of irradiation Page 1 to 15

Solar water heating system + Collectors Page 20 to 39

Solar water heater + Heat exchanger Page 42 to 63

Combined hot water system Page 100 to 148

Dielectric +Heating system + Earth Reservoir Page 151 to 154

#### Day 7 Part 1

#### RE003- Solar and Thermal Energy Systems

[www.highlightcomputer.com/Day 7 Part 1 RE003- Solar and Thermal Energy Systems.zip](http://www.highlightcomputer.com/Day%207%20Part%201%20RE003-Solar%20and%20Thermal%20Energy%20Systems.zip)

### LESSON NOTES

#### RE003- Solar and Thermal Energy Systems

[www.iqytechnicalcollege.com/RE003.zip](http://www.iqytechnicalcollege.com/RE003.zip)

#### ASSIGNMENT

Page 18 All questions of

[www.highlightcomputer.com/BEGeneralREAssignment.pdf](http://www.highlightcomputer.com/BEGeneralREAssignment.pdf)

200 and 960 weighting points can be taken from Group E (or all 960 elective weighting points can be taken from Group E) 360 points	Weighting Points
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UEEEL0041 Develop engineering solution for synchronous machine and control problems\* 60

UEEEL0043 Develop engineering solutions for induction machine and control problems\* 60

### AC Machines

<a href="#">G143+145</a>	<a href="#">AC Machines</a>
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UEENEEG145A Develop engineering solutions for induction machine and control problems	UEEEL0043	Develop engineering solutions for induction machine and control problems*
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G043+G045+ G143+145+1145

Page 308 to 329 of

[www.highlightcomputer.com/Video Lessons.pdf](http://www.highlightcomputer.com/Video%20Lessons.pdf)

### [Induction and synchronous machines & control](#)

[G043+G045 Lesson 1 AC Machine Introduction.zip](#)

<http://youtu.be/-WifOPhNDn8>

#### [G043+G045 Lesson 2 Slip+Equivalent Ckt.zip](#)

<http://youtu.be/De79cbk2EQQ>

<http://youtu.be/gprZTitiOao>

#### [G043+G045 Lesson 3 Power Transfer.zip](#)

<http://youtu.be/pCMcMPBrUJE>

<http://youtu.be/7tJjDuG5SQc>

<http://youtu.be/dV9VFfsXeFnY>

#### [G043+G045 Lesson 4 Test for equivalent ckt.zip](#)

<http://youtu.be/HF4bJ6vWX2c>

#### [G043+G045 Lesson 5 Equivalent Ckt Problems.zip](#)

[http://youtu.be/PyPQsw0L\\_o0](http://youtu.be/PyPQsw0L_o0)

[http://youtu.be/f8VbD\\_APNfk](http://youtu.be/f8VbD_APNfk)

<http://youtu.be/SROLC5hkoc0>

#### [G043+G045 Lesson 6 Motor starting and control.zip](#)

<http://youtu.be/Utfbs7Ti6M>

<http://youtu.be/VnNiesPgeZk>

<http://youtu.be/AMO70oGS2Fs>

<http://youtu.be/FQVMCMDSTwo>

#### [G043+G045 Lesson 7 Synchronous machine introduction.zip](#)

<http://youtu.be/KM9TJcr2MBk>

#### [G043+G045 Lesson 8 Synchronous machine ckt problems.zip](#)

[http://youtu.be/ZGsmZfl\\_iPoc](http://youtu.be/ZGsmZfl_iPoc)

<http://youtu.be/bnpYxKtSz1c>

#### [G043+G045 Lesson 9 Synchronous machine starting.zip](#)

<http://youtu.be/p4x03LkgBc8>

<http://youtu.be/yKmNWaxT2Hk>

#### [G043+G045 Lesson 10 Single phase motor.zip](#)

<http://youtu.be/9QgmEb0IFpE>

#### [G043+G045 Lesson 11 Factors affecting motor operation.zip](#)

<http://youtu.be/sAqyhDlqwwY>

**The links contain the following lessons**

G043+G045 Lesson 1 AC Machine Introduction  
 G043+G045 Lesson 2 Slip+Equivalent Ckt  
 G043+G045 Lesson 3 Power Transfer  
 G043+G045 Lesson 4 Test for equivalent ckt  
 G043+G045 Lesson 5 Equivalent Ckt Problems  
 G043+G045 Lesson 6 Motor starting and control  
 G043+G045 Lesson 7 Synchronous machine introduction  
 G043+G045 Lesson 8 Synchronous machine ckt problems  
 G043+G045 Lesson 9 Synchronous machine starting  
 G043+G045 Lesson 10 Single phase motor  
 G043+G045 Lesson 11 Factors affecting motor operation

<http://www.highlightcomputer.com/Elect Machine-G043G044G045 Mod.zip>

[http://highlightcomputergroup4.zoomshare.com/files/G043\\_G045\\_Part\\_1.zip](http://highlightcomputergroup4.zoomshare.com/files/G043_G045_Part_1.zip)

**G043+G045 Part 1**

[http://highlightcomputergroup4.zoomshare.com/files/G043\\_G045\\_Part\\_2.zip](http://highlightcomputergroup4.zoomshare.com/files/G043_G045_Part_2.zip)

**G043+G045 Part 2**

[http://highlightcomputergroup4.zoomshare.com/files/G044\\_G010.zip](http://highlightcomputergroup4.zoomshare.com/files/G044_G010.zip)

Points left 300-120=180

UEERE0066 Develop effective engineering strategies for energy reduction in buildings\* 60

[Building\\_Design+Material\\_Science-K041+E047.zip](#)

[Building\\_Design +Material Science](#)

[www.highlightcomputer.com/K151A\\_Energy\\_Efficient\\_Building-Mod.zip](http://www.highlightcomputer.com/K151A_Energy_Efficient_Building-Mod.zip)

[Building\\_Design+Material\\_Science-K041+E047.zip](#)

[Building\\_Design +Material Science](#)

[www.highlightcomputer.com/K151A\\_Energy\\_Efficient\\_Building-Mod.zip](http://www.highlightcomputer.com/K151A_Energy_Efficient_Building-Mod.zip)

Points left 180-60=120

UEERE0063 Design off-grid photovoltaic/generating set systems \* 40

[Renewable\\_Energy-K025+K035.zip](#)

[http://highlightcomputergroup4.zoomshare.com/files/Renewable\\_EnergyK025K035\\_Mod.zip](http://highlightcomputergroup4.zoomshare.com/files/Renewable_EnergyK025K035_Mod.zip)

[Renewable\\_Energy\\_K025+K035](#)

Page 473 to 490 of  
[www.highlightcomputer.com/Video\\_Lessons.pdf](http://www.highlightcomputer.com/Video_Lessons.pdf)

**Renewable Energy+ Photovoltaic**

[K025\\_Lesson\\_1-PV\\_Cell.zip](#)

<http://youtu.be/KVxTNh71iis>

[K025\\_Lesson\\_2-PV\\_Power.zip](#)

<http://youtu.be/ZipUk0kc3GA>

[K025 Lesson 3-Module derating.zip](#)

<http://youtu.be/CopZphatWss>

[K025 Lesson 4-PV Module daily energy.zip](#)

<http://youtu.be/nXMraW8oxak>

[K025 Lesson 5-PV daily energy accurate method.zip](#)

[http://youtu.be/kpyEpxVf\\_EA](http://youtu.be/kpyEpxVf_EA)

[K025 Lesson 6-Solar insolation.zip](#)

<http://youtu.be/z4W7pA2i3C4>

<http://youtu.be/dZVccq38xpE>

[K025 Lesson 7-Solar geometry.zip](#)

<http://youtu.be/R4-CLzHW5hE>

[K025 Lesson 8-PV Semiconductor.zip](#)

<http://youtu.be/sgK639n74ag>

[K025 Lesson 9-Solar irradiation and shading assessment.zip](#)

[http://youtu.be/TRg\\_83z6Zvw](http://youtu.be/TRg_83z6Zvw)

<http://youtu.be/oBggHGdZgQY>

[K025 Lesson 10-Irradiation assessment.zip](#)

<http://youtu.be/3empnl2Sm7w>

[K025 Lesson 11-Solar cell technology.zip](#)

<http://youtu.be/f5M4XVOAggE>

[K025 Lesson 12-PV Power system.zip](#)

<http://youtu.be/smLWJYcuT6w>

<http://youtu.be/nSu23xn9G08>

[K025 Lesson 13-PV water pumping system.zip](#)

<http://youtu.be/GV0nCaQj2lc>

<http://youtu.be/pD4DcQX6L3Q>

<http://youtu.be/gbsM7mKRh30>

[K025 PV Software Video.zip](#)

<http://youtu.be/i0XO9O1mG7A>

[http://youtu.be/45bgWra7\\_70](http://youtu.be/45bgWra7_70)

<http://youtu.be/rMY8ffuT0bY>

**The links contain the following lessons**

- K025 Lesson 1-PV Cell
  - K025 Lesson 2-PV Power
  - K025 Lesson 3-Module derating
  - K025 Lesson 4-PV Module daily energy
  - K025 Lesson 5-PV daily energy accurate method
  - K025 Lesson 6-Solar insolation
  - K025 Lesson 7-Solar geometry
  - K025 Lesson 8-PV Semiconductor
  - K025 Lesson 9-Solar irradiation and shading assessment
  - K025 Lesson 10-Irridation assessment
  - K025 Lesson 11-Solar cell technology
  - K025 Lesson 12-PV Power system
  - K025 Lesson 13-PV water pumping system
  - K025 PV Software Video
- Points left 120-40=80

UEECD0049 Use advanced computational processes to provide solutions to energy sector engineering problems\* 80

**E126+127**

[Maths\\_1-E050+G047.zip](#)

UEENEEE126A	Provide solutions to basic engineering computational problems	UEECD0039	Provide solutions to basic engineering computational problems*
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[www.highlightcomputer.com/Maths1E050G047Mod.zip](http://www.highlightcomputer.com/Maths1E050G047Mod.zip)

[Maths 2-E026.zip](#)

[www.iqytechnicalcollege.com/Maths\\_2-E026\\_Mod.zip](http://www.iqytechnicalcollege.com/Maths_2-E026_Mod.zip)

E050/E126

Page 87 to 101

[www.highlightcomputer.com/Video\\_Lessons.pdf](http://www.highlightcomputer.com/Video_Lessons.pdf)

**Mathematics**

[E050Part1.zip](#)

Lesson 1

<http://youtu.be/67MNUQMIkKw>

<http://youtu.be/GMrOtiVGcSg>

Lesson 2

<http://youtu.be/GMrOtiVGcSg>

Lesson 3

<http://youtu.be/3MnPK4HC0oc>

Lesson 4

<http://youtu.be/4Qiv5gvcxG0>

Lesson 5

<http://youtu.be/NJFYPLXjNDM>

Lesson 6

<http://youtu.be/Ejr9Genn5ZM>

[E050 Lesson 7 Mensuration+Area.zip](#)

<http://youtu.be/PSdB3--AHZM>

[E050 Lesson 8 Differentiation.zip](#)

<http://youtu.be/rLmLY8fj2l8>

[http://youtu.be/VLhQD\\_wrWY8](http://youtu.be/VLhQD_wrWY8)

[E050 Lesson 9 Integration.zip](#)

[http://youtu.be/ax\\_k2-qvhpA](http://youtu.be/ax_k2-qvhpA)

[E050 Lesson 10 Integration of trigo functions.zip](#)

<http://youtu.be/Xp6RiXES0qs>

[E050 Lesson 11 Definite integral+Electrical application.zip](#)

<http://youtu.be/GS26UxVilPA>

<http://youtu.be/AYXF8n4yM>

[E050 Lesson 11 Exercises.zip](#)

**The links contain the following lessons**

E050 Lesson 1 Polynomials  
 E050 Lesson 2 Non linear equations  
 E050 Lesson 3 Logarithmic equation  
 E050 Lesson 4 Circular function  
 E050 Lesson 5 Trigonometric identities  
 E050 Lesson 6 Vector  
 E050 Lesson 7 Mensuration+Area  
 E050 Lesson 8 Differentiation  
 E050 Lesson 9 Integration  
 E050 Lesson 10 Integration of trigo functions  
 E050 Lesson 11 Definite integral+Electrical application  
 E050 Lesson 11 Exercises

E026/E127

Page 26 to 50 of

[www.highlightcomputer.com/Video Lessons.pdf](http://www.highlightcomputer.com/Video%20Lessons.pdf)

**Engineering Mathematics**

**E026 Lesson 1 to 5**

**The links contain the following lessons**

E026 Lesson 1-Fourier

<https://www.youtube.com/watch?v=OzYO2qCJGNg>

<http://youtu.be/fGL7VYtEBV4>

E026 Lesson 2-Differential equation

<http://youtu.be/RjhgggxG2p0>

E026 Lesson 3-Gamma+Beta Function

[http://youtu.be/D-bUQ1Uyl\\_Y](http://youtu.be/D-bUQ1Uyl_Y)

<http://youtu.be/6rNFJbbqzyl>

E026 Lesson 4-Vector analysis

<http://youtu.be/T9OYT8RpqbA>

E026-Lesson 5-Laplace Transform

**Links**

E026 Harmonic Exercises

<https://www.youtube.com/watch?v=VSdug1mECDE>

**E026 Definite Integral**

<https://www.youtube.com/watch?v=oal27HPNvhA>

**E026 Harmonics**

<https://www.youtube.com/watch?v=yFM7ajxKnXw>

<http://youtu.be/d5drjXEZKv0>

<http://youtu.be/NDUvNSO6il8>

<http://youtu.be/d5drjXEZKv0>

**E026 Multiple Integral**

<http://youtu.be/amV5KiBiQjk>

<http://youtu.be/IAKJvYUTPil>

E026-Lesson 6-Inverse Laplace+ Differential equation solution

[http://youtu.be/yXulBjeI\\_2w](http://youtu.be/yXulBjeI_2w)

<http://youtu.be/SPGeFn2icU0>

<http://youtu.be/4VHLHZp6joYg>

<http://youtu.be/bYkyLGd17PU>

<http://youtu.be/GrYcm8FzAMY>  
E026-Lesson 7-Matrices  
<http://youtu.be/99cNSVx4hgU>

<http://youtu.be/zlHu2UYwA5c>

[http://youtu.be/m\\_7oVILNSsl](http://youtu.be/m_7oVILNSsl)

<http://youtu.be/5hq-ZFzdCRI>

E026-Lesson 8 Legendre Function

<http://youtu.be/VWyySjQ1grs>

E026-Lesson 9 Binomial Theorem+ Partial Differential equation

<http://youtu.be/jNj4dWuci50>

E026-Lesson 10 Multiple Integral

<http://youtu.be/amV5KiBi0jk>

[https://www.youtube.com/watch?v=yXulBJeI\\_2w](https://www.youtube.com/watch?v=yXulBJeI_2w)

Points left 80-80=0

EXTRA

UEEEL0042

Develop engineering solutions for d.c. machine and control problems\*

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G044+G144+I146

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[www.highlightcomputer.com/Video Lessons.pdf](http://www.highlightcomputer.com/Video%20Lessons.pdf)

[DC Machine and control](#)

[G044 Lesson 1 DC Machine Principle.zip](#)

[http://youtu.be/-jAtAH\\_Ny94](http://youtu.be/-jAtAH_Ny94)

[G044 Lesson 2 DC Winding +Armature reaction.zip](#)

<http://youtu.be/SYx2SSmMKIE>

<http://youtu.be/YtTPpjiUYI>

[G044 Lesson 3 Factors affecting speed & direction of rotation.zip](#)

<http://youtu.be/9-7wskVrhis>

[http://youtu.be/O\\_uo2H5Rfic](http://youtu.be/O_uo2H5Rfic)

<http://youtu.be/QaabA5pmB9E>

[G044 Lesson 4 Torque speed relation.zip](#)

<http://youtu.be/NsBiqxreBOA>

[G044 Lesson 5 Losses & efficiency of DC machine.zip](#)

<http://youtu.be/2sHkCIBWfW>

<http://youtu.be/hZAJL3oUxMM>

[G044 Lesson 6 Machine temperature rise.zip](#)

<http://youtu.be/h8PNG21p-p4>

[http://youtu.be/Cq0V4DR\\_2wE](http://youtu.be/Cq0V4DR_2wE)

[G044 Lesson 7 DC motor control.zip](#)

<http://youtu.be/XUidfx-gtF0>

[G044 Lesson 8 Duty cycle+DC motor starter.zip](#)

<http://youtu.be/bhQF-hurKMI>

[G044 Lesson 9 DC motor speed control.zip](#)

<http://youtu.be/kRfoWS3ujdE>

[http://youtu.be/R\\_0LDkQEAHU](http://youtu.be/R_0LDkQEAHU)

**The links contain the following lessons**

G044 Lesson 1 DC Machine Principle  
G044 Lesson 2 DC Winding +Armature reaction  
G044 Lesson 3 Factors affecting speed & direction of rotation  
G044 Lesson 4 Torque speed relation  
G044 Lesson 5 Losses & efficiency of DC machine  
G044 Lesson 6 Machine temperature rise  
G044 Lesson 7 DC motor control  
G044 Lesson 8 Duty cycle+DC motor starter  
G044 Lesson 9 DC motor speed control

**Reference Textbooks**

[www.iqytechnicalcollege.com/uee62122textbooks.htm](http://www.iqytechnicalcollege.com/uee62122textbooks.htm)