



Australian Government

UEE63011 Advanced Diploma of Electrical Systems Engineering

Release 4

UEE63011 Advanced Diploma of Electrical Systems Engineering

Modification History

Release	Action	Core/Elective	Details	Points
2	Add	Group B	UETTDRIS44A Perform HV field switching operation to a given schedule	60
2	Add	Group D	UETTDRIS69A Diagnose and rectify faults in energy supply apparatus	60
2	Add	Group D	UETTDRIS70A Diagnose and rectify faults in electrical energy distribution systems	60
2	Add	Group D	UETTDRIS71A Diagnose and rectify faults in electrical energy supply transmission systems	60
2	Add	Group D	UETTDRIS72A Diagnose and rectify faults in distributed Generation systems	60
2	Add	Group E	UETTDRIS74A Develop engineering solutions for energy supply system protection problems	60
2	Edit		Edit Name to reflect correct Unit title UEENEED104A Use engineering applications software on personal computers	40
2	Edit		Edit Name to Reflect correct Unit Title UEENEEI124A Fault find and repair analogue circuits and components in electronic control systems	
2	Edit		Move unit from Elective Group C to Group B UETTDRIS67A Solve problems in energy supply network equipment	
2	Edit		Move unit from Elective Group C to Group B UETTDRIS68A Solve problems in energy supply network protection equipment and systems	
3	Edit	Group B	Edit Name to reflect correct Unit title UEENEEI102A Solve problems in pressure measurement components and systems	40

3	Edit	Group B	Edit Name to reflect correct Unit title UEENEEI103A Solve problems in density_level measurement components and systems	40
3	Edit	Group B	Edit Name to reflect correct Unit title UEENEEI104A Solve problems in flow measurement components and systems	40
3	Edit	Group B	Edit Name to reflect correct Unit title UEENEEI105A Solve problems in temperature measurement components and systems	40
3	Edit	Group C	Edit Name to reflect correct Unit title UEENEEI151A Develop, enter and verify word and analogue control programs for programmable logic controllers.	60

4	Edit	Core	Correct title of UEENEEG199A - Conduct compliance and functional verification of electrical apparatus and existing circuits	40
4	Edit	Elective	Correct title of UEENEEE127A - Use advanced computational processes to provide solutions to energy sector engineering problems	80
4	Edit	Elective	Correct title of UEENEEE128A - Develop engineering solutions to photonic system problems	80
4	Edit	Elective	Correct title of UEENEEE161A - Analyse static and dynamic parameters of electrical equipment	80
4	Edit	Elective	Correct title of UEENEEE162A - Select drive components for electrical equipment design	80
4	Edit	Elective	Correct title of UEENEEE163A - Analyse materials for suitability in electrical equipment	80
4	Edit	Elective	Correct title of UEENEEG110A - Find and repair faults in LV d.c. electrical apparatus and circuits	60
4	Edit	Elective	Correct title of UEENEEG111A - Carry out basic repairs to electrical components and equipment	40
4	Edit	Elective	Correct title of UEENEEG116A - Diagnose and rectify faults in traction lift systems	80

4	Edit	Elective	Correct title of UEENEEG119A - Maintain operation of electrical marine equipment and systems	60
4	Edit	Elective	Correct title of UEENEEG120A - Select and arrange equipment for special LV electrical installations	60
4	Edit	Elective	Correct title of UEENEEG125A - Plan electrical installations with a low voltage demand up to 400 A per phase	40
4	Edit	Elective	Correct title of UEENEEG127A - Design electrical installations with a low voltage demand greater than 400 A per phase	40
4	Edit	Elective	Correct title of UEENEEG128A - Plan low voltage switchboard and control panel layouts	40
4	Edit	Elective	Correct title of UEENEEG129A - Overhaul and repair major switchgear and controlgear	60
4	Edit	Elective	Correct title of UEENEEG130A - Design switchboards rated for high fault levels (greater than 400 A)	60
4	Edit	Elective	Correct title of UEENEEG131A - Evaluate performance of low voltage electrical apparatus	40
4	Edit	Elective	Correct title of UEENEEG143A - Develop engineering solution for synchronous machine and control problems	60
4	Edit	Elective	Correct title of UEENEEG144A - Develop engineering solutions for d.c. machine and control problems	60
4	Edit	Elective	Correct title of UEENEEG145A - Develop engineering solutions for induction machine and control problems	60
4	Edit	Elective	Correct title of UEENEEG153A - Rewind three phase low voltage induction machines	60
4	Edit	Elective	Correct title of UEENEEG155A - Rewind HV three phase induction machines rated for voltages to 3.3 kV	60
4	Edit	Elective	Correct title of UEENEEG156A - Rewind HV three phase induction machines rated for voltages above	60

			3.3 kV	
4	Edit	Elective	Correct title of UEENEEG159A - Conduct mechanical tests on electrical machines and components	40
4	Edit	Elective	Correct title of UEENEEG161A - Design and develop modifications to LV electrical machines	60
4	Edit	Elective	Correct title of UEENEEG164A - Repair and maintain mechanical components of electrical machines	40
4	Edit	Elective	Correct title of UEENEEG165A - Maintain and service traction lifts systems and equipment	40
4	Edit	Elective	Correct title of UEENEEG166A - Install and maintain escalators, moving walks and treadways	40
4	Edit	Elective	Correct title of UEENEEG167A - Align and install traction lift equipment	20
4	Edit	Elective	Correct title of UEENEEG168A - Diagnose and rectify faults in complex lift systems	40
4	Edit	Elective	Correct title of UEENEEG172A - Investigate and report on electrical incidents and causes	60
4	Edit	Elective	Correct title of UEENEEG185A - Select effective and efficient light sources and luminaries for given locations and designs	60
4	Edit	Elective	Correct title of UEENEEH102A - Repairs basic electronic apparatus faults by replacement of components	40
4	Edit	Elective	Correct title of UEENEEH147A - Assess electronic apparatus compliance	60
4	Edit	Elective	Correct title of UEENEEH150A - Assemble and set up basic security systems	80
4	Edit	Elective	Correct title of UEENEEH184A - Modify digital signal processing (DSP) based sub-systems	80
4	Edit	Elective	Correct title of UEENEEH185A - Design signal-conditioning subsystems	80
4	Edit	Elective	Correct title of UEENEEH188A - Design and	40

			develop electronics - computer systems projects	
4	Edit	Elective	Correct title of UEENEEI101A - Use instrumentation drawings, specification, standards and equipment manuals	40
4	Edit	Elective	Correct title of UEENEEI103A - Solve problems in density/level measurement components and systems	40
4	Edit	Elective	Correct title of UEENEEI116A - Assemble, enter and verify operating instructions in microprocessor equipped devices	20
4	Edit	Elective	Correct title of UEENEEI119A - Set up industrial field control devices	60
4	Edit	Elective	Correct title of UEENEEI123A - Design electronic control systems	60
4	Edit	Elective	Correct title of UEENEEI126A - Provide solutions to pneumatic-hydraulic system operations	80
4	Edit	Elective	Correct title of UEENEEI128A - Set up and configure controls on complex fluid systems	80
4	Edit	Elective	Correct title of UEENEEI148A - Solve problems in single phase electronic power control circuits	60
4	Edit	Elective	Correct title of UEENEEI149A - Solve problems in polyphase electronic power control circuits	60
4	Edit	Elective	Correct title of UEENEEI154A - Design and use advanced programming tools PC networks and HMI Interfacing	120
4	Edit	Elective	Correct title of UEENEEK138A - Design micro-hydro systems rated to 6.4 kW	60
4	Edit	Elective	Correct title of UEENEEK139A - Design stand-alone renewable energy (RE) systems	40
4	Edit	Elective	Correct title of UEENEEK140A - Develop engineering solutions to renewable energy (RE) problems	60
4	Edit	Elective	Correct title of UEENEEK146A - Design energy management controls for electrical installations in buildings	80

4	Edit	Elective	Correct title of UEENEEK151A - Develop effective engineering strategies for energy reduction in buildings	60
4	Edit	Elective	Correct title of UEENEEM039A - Conduct testing of hazardous areas installations - gas atmospheres	40
4	Edit	Elective	Correct title of UEENEEM079A - Design of gas detection systems	20
4	Edit	Elective	Correct title of UEENEEM080A - Report on the integrity of explosion-protected equipment in a hazardous area	20
4	Edit	Elective	Correct title of UETTDRIS44A - Perform HV field switching operation to a given schedule	40

Description

Scope

This qualification provides competencies to develop, design and validate/evaluate, select, commission, maintain and diagnose faults/malfunctions on advanced electrical equipment and systems. Also, provides skills to 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.

Pathways Information

Not applicable.

Licensing/Regulatory Information

Not applicable.

Entry Requirements

Not applicable.

Employability Skills Summary

Not applicable.

Packaging Rules

Completion requirements

The requirements for granting this qualification will be met when competency is demonstrated and achieved for:

- All the Core competency standard units, defined in the Core Competency Standard Units table below and
- A combination of Elective competency standard units to achieve a total weighting of 580 points in accordance with the Elective Competency Standard Units table below.

Note: UEENEEG199A - Those holding an 'Unrestricted Electrical Fitter Licence or equivalent issued in an Australian State or Territory meet the requirements of this unit and its pre-requisite requirements.

Core Competency Standard Units		Weighting Points
All Core competency standard units to be achieved		
UEENEE104A	Use engineering applications software on personal computers	40
UEENEE006B	Apply methods to maintain currency of industry developments	20
UEENEE011C	Manage risk in electrotechnology activities	60
UEENEE015B	Develop design briefs for electrotechnology projects	40
UEENEE071B	Write specifications for electrical engineering projects	40
UEENEE080A	Apply industry and community standards to engineering activities	20
UEENEE081A	Apply material science to solving electrotechnology engineering problems	60
UEENEE082A	Apply physics to solving electrotechnology engineering problems	60
UEENEE083A	Establish and follow a competency development plan in an electrotechnology engineering discipline	120
UEENEE101A	Apply Occupational Health and Safety regulations, codes and practices in the workplace	20
UEENEE102A	Fabricate, assemble and dismantle utilities industry components	40

Core Competency Standard Units		Weighting Points
All Core competency standard units to be achieved		
UEENEEE104A	Solve problems in d.c. circuits	80
UEENEEE105A	Fix and secure electrotechnology equipment	20
UEENEEE107A	Use drawings, diagrams, schedules, standards, codes and specifications	40
UEENEEE117A	Implement and monitor energy sector OHS policies and procedures	20
UEENEEE124A	Compile and produce an energy sector detailed report	60
UEENEEE125A	Provide engineering solutions for problems in complex multiple path circuits	60
UEENEEE126A	Provide solutions to basic engineering computational problems	60
UEENEEE137A	Document and apply measures to control OHS risks associated with electrotechnology work	20
UEENEEG006A	Solve problems in single and three phase low voltage machines	80
UEENEEG033A	Solve problems in single and three phase low voltage electrical apparatus and circuits	60
UEENEEG063A	Arrange circuits, control and protection for general electrical installations	40
UEENEEG101A	Solve problems in electromagnetic devices and related circuits	60
UEENEEG102A	Solve problems in low voltage a.c. circuits	80
UEENEEG106A	Terminate cables, cords and accessories for low voltage circuits	40
UEENEEG108A	Trouble-shoot and repair faults in low voltage electrical apparatus and circuits	40
UEENEEG109A	Develop and connect electrical control circuits	80
UEENEEG149A	Provide engineering solutions to problems in complex polyphase power circuits	60

Core Competency Standard Units		Weighting Points
All Core competency standard units to be achieved		
UEENEEG169A	Manage large electrical projects	40
UEENEEG170A	Plan large electrical projects	60
UEENEEG199A	Conduct compliance and functional verification of electrical apparatus and existing circuits	40
UEENEEK132A	Develop strategies to address environmental and sustainability issues in the energy sector	20
Total points in core		1580

Elective Competency Standard Units			
Complete Elective units to achieve a total of weighting of 580 points from the following groups:			
Group		Minimum points	Maximum points
A	Imported and Common Elective Units Imported units from other training packages and/or state accredited courses can be added to this group, but they must be selected from qualifications where the unit is first packaged at AQF level 6. If units have not being assigned a weighting by the relevant EE-Oz Industry Technical Advisory Committee, their weighting will be 10 points.	0	220
B	Qualification Elective Units	0	160
C	Qualification Elective Units	0	160
D	Qualification Elective Units	0	160
E	Qualification Elective Units You may select the majority of your elective units from this Group	200	580

Group A – Imported and Common Electives Units	Weighting Points
You may complete units to a maximum weighting of 220	

BSBMGT502B	Manage people performance	70
BSBINM501A	Manage an information or knowledge management system	50
BSBMGT516C	Facilitate continuous improvement	60
BSBINN502A	Build and sustain an innovative work environment	50
BSBWOR502B	Ensure team effectiveness	60
	<p>Imported units from other training packages and/or state accredited courses can be added to this group, but they must be selected from qualifications where the unit is first packaged at AQF level 6. If units have not being assigned a weighting by the relevant EE-Oz Industry Technical Advisory Committee, their weighting will be 10 points.</p> <p>Note: For further information see Application of the NQC Flexibility Formula, UEE11 Electrotechnology Training Package, Version 1, Volume 1 Qualification Framework</p>	Up to 220 points

Group B – Qualification Elective Units		Weighting Points
You may complete units to a maximum weighting of 160		
UEENEEA110A	Assemble, mount and connect control gear and switchgear	40
UEENEEA112A	Fabricate and assemble bus bars	40
UEENEEA113A	Mount and wire control panel equipment	40
UEENEEG107A	Select wiring systems and cables for low voltage general electrical installations	60
UEENEEG110A	Find and repair faults in LV d.c. electrical apparatus and circuits	60
UEENEEG111A	Carry out basic repairs to electrical components and equipment	40
UEENEEG116A	Diagnose and rectify faults in traction lift systems	80
UEENEEG118A	Maintain operation of electrical mining equipment and systems	60
UEENEEG119A	Maintain operation of electrical marine equipment and systems	60
UEENEEG120A	Select and arrange equipment for special LV electrical installations	60
UEENEEG129A	Overhaul and repair major switchgear and controlgear	60
UEENEEG150A	Wind electrical coils	40
UEENEEG151A	Place and connect electrical coils	40
UEENEEG152A	Rewind single phase machines	40
UEENEEG153A	Rewind three phase low voltage induction machines	60
UEENEEG154A	Rewind LV direct current machines	60
UEENEEG157A	Conduct electrical tests on LV electrical machines	40
UEENEEG159A	Conduct mechanical tests on electrical machines and components	40
UEENEEG164A	Repair and maintain mechanical components of electrical machines	40

UEENEEG165A	Maintain and service traction lifts systems and equipment	40
UEENEEG166A	Install and maintain escalators, moving walks and treadways	40
UEENEEG167A	Align and install traction lift equipment	20
UEENEEG171A	Install, set up and commission interval metering	20
UEENEEG181A	Provide advice on effective and energy efficient lighting products	20
UEENEEG182A	Supply effective and efficient lighting products for domestic and small commercial applications	40
UEENEEG183A	Provide advice on the application of energy efficient lighting for ambient and aesthetic effect	20
UEENEEG189A	Install and maintain emergency lighting systems	40
UEENEEH102A	Repairs basic electronic apparatus faults by replacement of components	40
UEENEEH111A	Troubleshoot single phase input d.c. power supplies	40
UEENEEH150A	Assemble and set up basic security systems	80
UEENEEI101A	Use instrumentation drawings, specification, standards and equipment manuals	40
UEENEEI102A	Solve problems in pressure measurement components and systems	40
UEENEEI103A	Solve problems in density/level measurement components and systems	40
UEENEEI104A	Solve problems in flow measurement components and systems	40
UEENEEI105A	Solve problems in temperature measurement components and systems	40
UEENEEI116A	Assemble, enter and verify operating instructions in microprocessor equipped devices	20
UEENEEI138A	Provide solutions to extra low voltage (ELV) electro-pneumatic control systems and drives	60
UEENEEI140A	Plan the electrical installation of integrated systems	20

UEENEEI141A	Develop electrical integrated systems	20
UEENEEI150A	Develop, enter and verify discrete control programs for programmable controllers	60
UEENEEJ102A	Prepare and connect refrigerant tubing and fittings	30
UEENEEJ103A	Establish the basic operating conditions of vapour compression systems	60
UEENEEJ104A	Establish the basic operating conditions of air conditioning systems	20
UEENEEM019A	Attend to breakdowns in hazardous areas — coal mining	20
UEENEEM020A	Attend to breakdowns in hazardous areas — gas atmospheres	20
UEENEEM021A	Attend to breakdowns in hazardous areas — dust atmospheres	20
UEENEEM022A	Attend to breakdowns in hazardous areas — pressurisation	20
UEENEEM027A	Maintain equipment in hazardous areas — coal mining	60
UEENEEM028A	Maintain equipment in hazardous areas — gas atmospheres	60
UEENEEM029A	Maintain equipment in hazardous areas — dust atmospheres	60
UEENEEM030A	Maintain equipment in hazardous areas — pressurisation	60
UEENEEM038A	Conduct testing of hazardous areas installations — coal mining	40
UEENEEM080A	Report on the integrity of explosion-protected equipment in a hazardous area	20
UETTDRIS43A	Perform low voltage field switching operation to a given schedule.	50
UETTDRIS44A	Perform HV field switching operation to a given schedule	40
UETTDRIS47A	Sample, test, filter and reinstate insulating oil	40
UETTDRIS67A	Solve problems in energy supply network equipment	80
UETTDRIS68A	Solve problems in energy supply network protection	40

	equipment and systems	
UETTDRSB29A	Maintain capacitor bank equipment for voltage regulation	40
UETTDRSB39A	Perform power system substation switching operation to a given schedule	50

Group C – Qualification Elective Units		Weighting Points
You may complete units to a maximum weighting of 160		
UEENEEC005B	Estimate electrotechnology projects	40
UEENEED125A	Plan electrical installations with a low voltage demand up to 400 A per phase	40
UEENEED128A	Plan low voltage switchboard and control panel layouts	40
UEENEED155A	Rewind HV three phase induction machines rated for voltages to 3.3 kV	60
UEENEED156A	Rewind HV three phase induction machines rated for voltages above 3.3 kV	60
UEENEED158A	Conduct electrical tests on HV electrical machines	60
UEENEED162A	Set up and place LV electrical apparatus and associated circuits into service	40
UEENEED168A	Diagnose and rectify faults in complex lift systems	40
UEENEED172A	Investigate and report on electrical incidents and causes	60
UEENEED175A	Develop compliance policies and plans to conduct a electrical contracting business	80
UEENEED179A	Develop detailed electrical drawings	60
UEENEED184A	Provide photometric data for illumination system design	60
UEENEED185A	Select effective and efficient light sources and luminaries for given locations and designs	60
UEENEED186A	Design effective and efficient lighting for residential and commercial buildings	20
UEENEED188A	Prepare quotations for the supply of effective and efficient lighting products for lighting projects	20

UEENEEI119A	Set up industrial field control devices	60
UEENEEI120A	Provide solutions to problems in industrial control systems	60
UEENEEI124A	Fault find and repair analogue circuits and components in electronic control systems	60
UEENEEI125A	Provide solutions to fluid circuit operations	60
UEENEEI126A	Provide solutions to pneumatic-hydraulic system operations	80
UEENEEI139A	Diagnose and rectify faults in digital controls systems	60
UEENEEI142A	Develop an electrical integrated system interface for access through a touch screen	20
UEENEEI143A	Develop access control of electrical integrated systems using logic-based programming tools	20
UEENEEI144A	Develop interfaces for multiple access methods to monitor, schedule and control an electrical integrated system	20
UEENEEI148A	Solve problems in single phase electronic power control circuits	60
UEENEEI149A	Solve problems in polyphase electronic power control circuits	60
UEENEEI151A	Develop, enter and verify word and analogue control programs for programmable logic controllers.	60
UEENEEI152A	Develop, enter and verify programs in Supervisory Control and Data Acquisition systems	60
UEENEEI155A	Develop structured programs to control external devices	40
UEENEEM039A	Conduct testing of hazardous areas installations - gas atmospheres	40
UEENEEM042A	Conduct visual inspection of hazardous areas installations	40
UEENEEM044A	Conduct detailed inspection of hazardous areas installations — gas atmospheres	40
UEENEEM047A	Develop and manage maintenance programs for hazardous areas electrical equipment — coal mining	20

UEENEEM078A	Manage compliance of hazardous areas	20
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Group D – Qualification Elective Units		Weighting Points
You may complete units to a maximum weighting of 160		
UEENEEC006B	Prepare tender submissions for electrotechnology projects	60
UEENEEE110A	Develop and implement energy sector maintenance programs	60
UEENEEG127A	Design electrical installations with a low voltage demand greater than 400 A per phase	40
UEENEEG131A	Evaluate performance of low voltage electrical apparatus	40
UEENEEG180A	Develop detailed and complex drawings for electrical systems using CAD systems	60
UEENEEG187A	Design effective and efficient lighting for public, open and sports areas	20
UEENEEI127A	Analyse complex electronic circuits controlling fluids	80
UEENEEI145A	Diagnose and rectify faults in a.c. motor drive systems	60
UEENEEI146A	Diagnose and rectify faults in d.c. motor drive systems	60
UEENEEI147A	Diagnose and rectify faults in servo drive systems	60
UEENEEI156A	Develop and test code for microcontroller devices	60
UEENEEI157A	Configure and maintain industrial control system networks	60
UEENEEK129A	Design renewable energy (RE) heating systems	120
UEENEEK131A	Design wind energy conversion systems (WECS) rated to 10 kW	60
UEENEEK138A	Design micro-hydro systems rated to 6.4 kW	60
UEENEEM035A	Conduct a conformity assessment of explosion-protected equipment — coal mining	40
UEENEEM036A	Conduct a conformity assessment of explosion-protected equipment — gas atmospheres	40
UEENEEM037A	Conduct a conformity assessment of explosion-protected	40

	equipment — dust atmospheres	
UEENEEM054A	Plan electrical installations for hazardous areas — gas atmospheres	20
UEENEEM064A	Conduct audit of hazardous areas installations — coal mining	60
UEENEEM065A	Conduct audit of hazardous areas installations — gas atmospheres	60
UEENEEM066A	Conduct audit of hazardous areas installations — dust atmospheres	60
UEENEEM067A	Assess the fitness-for-purpose of hazardous areas explosion-protected equipment — coal mining	60
UEENEEM068A	Assess the fitness-for-purpose of hazardous areas explosion-protected equipment — gas atmospheres	60
UEENEEM069A	Assess the fitness-for-purpose of hazardous areas explosion-protected equipment — dust atmospheres	60
UETTDRIS69A	Diagnose and rectify faults in energy supply apparatus	60
UETTDRIS70A	Diagnose and rectify faults in electrical energy distribution systems	60
UETTDRIS71A	Diagnose and rectify faults in electrical energy supply transmission systems	60
UETTDRIS72A	Diagnose and rectify faults in distributed Generation systems	60

Group E – Qualification Elective Units		Weighting Points
You must complete units to a minimum weighting of 200 You may select all your elective units from this Group		
UEENEEC007B	Manage contract variations	40
UEENEEE127A	Use advanced computational processes to provide solutions to energy sector engineering problems	80
UEENEEE128A	Develop engineering solutions to photonic system problems	80
UEENEEE160A	Provide engineering solutions for uses of materials and	80

	thermodynamic effects	
UEENEEE161A	Analyse static and dynamic parameters of electrical equipment	80
UEENEEE162A	Select drive components for electrical equipment design	80
UEENEEE163A	Analyse materials for suitability in electrical equipment	80
UEENEEE164A	Design electrical machine drives and production layout plans	80
UEENEEE078B	Contribute to risk management in electrotechnology systems	20
UEENEEG130A	Design switchboards rated for high fault levels (greater than 400 A)	60
UEENEEG143A	Develop engineering solution for synchronous machine and control problems	60
UEENEEG144A	Develop engineering solutions for d.c. machine and control problems	60
UEENEEG145A	Develop engineering solutions for induction machine and control problems	60
UEENEEG160A	Evaluate performance of LV electrical machines	40
UEENEEG161A	Design and develop modifications to LV electrical machines	60
UEENEEH147A	Assess electronic apparatus compliance	60
UEENEEH184A	Modify digital signal processing (DSP) based sub-systems	80
UEENEEH185A	Design signal-conditioning subsystems	80
UEENEEH188A	Design and develop electronics - computer systems projects	40
UEENEEI123A	Design electronic control systems	60
UEENEEI128A	Set up and configure controls on complex fluid systems	80
UEENEEI129A	Set up electronically controlled mechanically operated complex systems	80
UEENEEI130A	Set up electronically controlled robotically operated	80

	complex systems	
UEENEEI153A	Design and configure Human-Machine Interface (HMI) networks	60
UEENEEI154A	Design and use advanced programming tools PC networks and HMI Interfacing	120
UEENEEK133A	Design hybrid renewable power systems	80
UEENEEK139A	Design stand-alone renewable energy (RE) systems	40
UEENEEK140A	Develop engineering solutions to renewable energy (RE) problems	60
UEENEEK146A	Design energy management controls for electrical installations in buildings	80
UEENEEK151A	Develop effective engineering strategies for energy reduction in buildings	60
UEENEEM052A	Classify hazardous areas — gas atmospheres	40
UEENEEM053A	Classify hazardous areas — dust atmospheres	40
UEENEEM057A	Design explosion-protected electrical systems and installations — gas atmospheres	20
UEENEEM058A	Design explosion-protected electrical systems and installations — dust atmospheres	20
UEENEEM059A	Design explosion-protected electrical systems and installations — pressurisation	20
UEENEEM075A	Design explosion-protected electrical systems — Coal mining	20
UEENEEM079A	Design of gas detection systems	20
UETTDRIS73A	Develop engineering solutions for energy supply power transformer problems	60
UETTDRIS74A	Develop engineering solutions for energy supply system protection problems	60

Note:

1.Pre-requisite pathways shall be identified and met for all elective units selected.

2. In selecting elective units considerations to career planning advice should be given to units that form part of a pre-requisite pathway for the progression to achieve particular competencies or qualification at a higher level.

3. Registered training organisations shall also provide information related to the relevant pathway(s) that may be taken to achieve paraprofessional status ("associate membership") with a professional engineering membership organisation.

END OF QUALIFICATION

Custom Content Section

Not applicable.