



Australian Government

Department of Education, Employment and Workplace Relations

UEE43011 Certificate IV in Electrical Equipment and Systems

Release: 1

UEE43011 Certificate IV in Electrical Equipment and Systems

Modification History

Not applicable.

Description

Scope

This qualification provides competencies to manufacture, fit, assemble, erect, operate, test, fault find, alter, repair electrical equipment and includes electrical wiring work only if that work is associated with assembling, maintaining, terminating or altering the wiring between electrical components within a plant or machinery. An electrical fitter is not authorised to install any electrical wiring systems within an electrical installation as prescribed by definitions contained in AS/NZS 3000.

Electrical equipment means any appliance, article, accessory, wire, fitting, cable, conduit or apparatus that generates, uses, conveys or controls (or that is intended to generate, use, convey or control) electricity above extra low voltage.

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 420 points in accordance with the Elective Competency Standard Units table below.

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

Core Competency Standard Units		Weighting Points
All Core competency standard units to be achieved		
UEENEEE038B	Participate in development and follow a personal competency development plan	20
UEENEEE101A	Apply Occupational Health Safety regulations, codes and practices in the workplace	20
UEENEEE102A	Fabricate, dismantle, assemble of utilities industry components	40
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
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
UEENEEG199A	Verify compliance and functionality of existing circuits	40
UEENEEK145A	Implement and monitor energy sector policies and procedures for environmental and sustainable work practices	20
Total points in core		860

Elective Competency Standard Units

Complete Elective units to achieve a total of weighting of 420 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 4. If units have not been assigned a weighting by the relevant EE-Oz Industry Technical Advisory Committee, their weighting will be 10 points.	0	60
B	Qualification Elective Units	0	200
C	Qualification Elective Units You may select all your elective units from this Group	220	420

Group A – Imported and Common Elective Units		Weighting Points
You may complete units to a maximum weighting of 60		
UEENEEC001B	Maintain documentation	20
UEENEEC002B	Source and purchase material/parts for installation or service jobs	20
UEENEEC003B	Provide quotations for installation or service jobs	20
UEENEEC010B	Deliver a service to customers	20
UEENEED101A	Use basic computer applications relevant to a energy sector workplace	20
UEENEEE009B	Comply with scheduled and preventative maintenance program processes	20
UEENEEE020B	Provide basic instruction in the use of electrotechnology apparatus	20
CPCCOHS1001A	Work safely in the construction industry	10
HLTCPR201B	Perform CPR	10
	<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 4. 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 60 points

Group B – Qualification Elective Units		Weighting Points
You may complete units to a maximum weighting of 200		
UEENEEA110A	Assemble, mount and connect switchgear and controlgear	40
UEENEEA112A	Make up and assemble bus bars	60
UEENEEA113A	Assemble and wire control panels	40
UEENEEED104A	Use software for engineering applications	40
UEENEEF102A	Install and maintain cabling for multiple access to telecommunication services	120
UEENEEF104A	Install and modify performance data communication copper cabling	40
UEENEEF115A	Assemble and connect telecommunication frames and cabinets	60
UEENEEG110A	Diagnose and rectify faults in d.c. electrical apparatus and circuits	60
UEENEEG111A	Carry out repairs to electrical apparatus	40
UEENEEG116A	Diagnose and rectify faults in lifts/escalator systems	80
UEENEEG118A	Maintain operation of electrical mining equipment and systems	60
UEENEEG119A	Maintain the operation of electrical marine equipment and systems	60
UEENEEG129A	Overhaul and repair switchgear and controlgear	60
UEENEEG150A	Wind electrical coils	40
UEENEEG151A	Place and connect electrical coils	40
UEENEEG152A	Rewind single phase machines	40
UEENEEG153A	Rewind LV three phase induction machines rated for low voltage	60
UEENEEG154A	Rewind LV direct current machines	60
UEENEEG157A	Conduct electrical tests on LV electrical machines	40

UEENEEG159A	Conduct mechanical tests of LV electrical machines	40
UEENEEG164A	Repair mechanical and electrical components of electrical machines	40
UEENEEG165A	Maintain and service electrical traction lifts	40
UEENEEG166A	Installation and maintenance of escalators, tread ways and moving walks	40
UEENEEG167A	Align and install lift components and equipment	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
UEENEEH102A	Repair basic electronic apparatus faults by replacement of components	40
UEENEEH111A	Troubleshoot single phase input d.c. power supplies	40
UEENEEI101A	Use instrumentation drawings, specifications, standards and equipment manuals	40
UEENEEI102A	Solve problems in pressure measurement circuits and systems	40
UEENEEI103A	Solve problems in density/level measurement circuits and systems	40
UEENEEI104A	Solve problems in flow measurement circuits and systems	40
UEENEEI105A	Solve problems in temperature measurement circuits and systems	40
UEENEEI107A	Install process instrumentation and tubing and control cabling	20
UEENEEI108A	Install process control apparatus and associated equipment	20
UEENEEI116A	Enter and verify operating instructions in microprocessor equipped devices	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
UEENEEJ105A	Position, assemble and start up single head split air conditioning and water heating heat pump systems	70
UEENEEJ106A	Install refrigerant pipe work, flow controls and accessories	60
UEENEEJ108A	Recover, pressure test, evacuate, charge and leak test refrigerants	60
UEENEEJ151A	Service small electrical appliances and power tools	60
UEENEEJ153A	Find and rectify fault motors and associated controls in refrigeration and air conditioning	50
UEENEEJ154A	Find and rectify faults in appliance control systems and devices	60
UEENEEJ155A	Service refrigeration appliances	60
UEENEEJ156A	Service clothes washing machines and dryers	40
UEENEEJ157A	Service electrical heating appliances	60
UEENEEJ158A	Service dishwasher machines	40
UEENEEJ159A	Service gas heating appliances	40
UEENEEJ162A	Recover, pressure test, evacuate, charge and leak test refrigerants — appliances	50
UEENEEJ170A	Diagnose and rectify faults in air conditioning and refrigeration control systems	70
UEENEEJ173A	Service and repair microwave ovens	40
UEENEEJ194A	Solve problems in low voltage refrigeration circuits	40
UEENEEJ195A	Establish the basic operating conditions of vapour	50

	compression systems - appliances	
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
UEENEEM031A	Overhaul and repair of explosion-protected equipment — coal mining	60
UEENEEM032A	Overhaul and repair of explosion-protected equipment — flameproof enclosures	60
UEENEEM033A	Overhaul and repair of explosion-protected equipment — gas atmospheres	60
UEENEEM034A	Overhaul and repair of explosion-protected equipment — dust atmospheres	40
UEENEEM060A	Carry out overhaul and repair of explosion-protected equipment — coal mining	60
UEENEEM061A	Carry out overhaul and repair of explosion-protected equipment — flameproof enclosures	60
UEENEEM062A	Carry out overhaul and repair of explosion-protected equipment — gas atmospheres	60
UEENEEM063A	Carry out overhaul and repair of explosion-protected equipment — dust atmospheres	60

UEENEEM070A	Repair reeling, trailing and flexible cables	60
UEENEEM071A	Test reeling, trailing and flexible cables	60
UEENEEM072A	Inspect and fit plugs/couplers for reeling, trailing and flexible cables	60
UEENEEM073A	Verify compliance of repaired reeling, trailing and flexible cables	60
UEENEEM076A	Use and maintain the integrity of a portable gas detection device	20
UEENEEM077A	Install and maintain the integrity of fixed gas detection equipment	20
UEENEEM080A	Report on the integrity of explosion-protected equipment in a hazardous area	20
UEENEEN102A	Assemble and wire internal electrical rail signalling equipment	30

Group C – Qualification Elective Units		Weighting Points
You must complete units to a minimum weighting of 220 You may select all your elective units from this Group		
UEENEEM128A	Plan layouts for electrical switchboards and control panels	40
UEENEEM155A	Rewind three phase induction machines rated for HV to 3.3 kV	60
UEENEEM156A	Rewind three phase induction machines rated for HV above 3.3 kV	60
UEENEEM158A	Conduct electrical tests on HV electrical machines	60
UEENEEM168A	Diagnose and rectify faults in complex lifts equipment and systems	40
UEENEEM179A	Develop detailed electrical drawings	60
UEENEEM119A	Set up transducers and field control devices	60
UEENEEM120A	Provide solutions to problems in industrial control systems	60

UEENEEI124A	Diagnose and rectify faults 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
UEENEEI148A	Provide solutions to single phase electronic power control problems	60
UEENEEI149A	Provide solutions to polyphase electronic power control problems	60
UEENEEI151A	Develop, enter and verify programs for industrial control systems using high level instructions	60
UEENEEI152A	Develop, enter and verify programs in Supervisory Control and Data Acquisition systems	60
UEENEEI155A	Develop structured programs to control external devices	40
UEENEEM038A	Conduct testing of hazardous areas installations — coal mining	40
UEENEEM039A	Conduct testing of hazardous areas installations — gas atmospheres	40
UEENEEM040A	Conduct testing of hazardous areas installations — dust atmospheres	40
UEENEEM041A	Conduct testing of hazardous area installations — pressurisation	40
UEENEEM042A	Conduct visual inspection of hazardous areas installations	40
UEENEEM043A	Conduct detailed inspection of hazardous areas installations — coal mining	40
UEENEEM044A	Conduct detailed inspection of hazardous areas installations — gas atmospheres	40
UEENEEM045A	Conduct detailed inspection of hazardous areas installations — dust atmospheres	40

UEENEEM046A	Conduct detailed inspection of hazardous areas installations — pressurisation	40
UEENEEM047A	Develop and manage maintenance programs for hazardous areas electrical equipment — coal mining	20
UEENEEM048A	Develop and manage maintenance programs for hazardous areas electrical equipment — gas atmospheres	20
UEENEEM049A	Develop and manage maintenance programs for hazardous areas electrical equipment — dust atmospheres	20
UEENEEM050A	Develop and manage maintenance programs for hazardous areas electrical equipment — pressurisation	20
UEENEEM054A	Plan electrical installations for hazardous areas — gas atmospheres	20
UEENEEM055A	Plan electrical installations for hazardous areas — dust atmospheres	20
UEENEEM056A	Plan electrical installations for hazardous areas — pressurisation	20
UEENEEM074A	Plan electrical installations in hazardous areas — Coal mining	20
UEENEEM078A	Manage compliance of hazardous areas	20

Note:

1. Prerequisite 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 prerequisite pathway for the progression to achieve particular competencies or qualification at a higher level.

END OF QUALIFICATION**Custom Content Section**

Not applicable.