



Australian Government

UEE43020 Certificate IV in Electrical Equipment and Systems

Release 1

UEE43020 Certificate IV in Electrical Equipment and Systems

Modification History

Release 1. This is the first release of this qualification in the UEE Electrotechnology Training Package

Qualification Description

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 installations (known as the Australian/New Zealand Wiring Rules).

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 (ELV).

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

Entry Requirements

The entry requirement for this qualification is:

- UEE33020 Certificate III in Electrical Fitting

or

- a current Electrical Fitter Occupational License or its equivalent issued in an applicable Australian state or territory.

Packaging Rules

A total of **540 weighting points** comprising:

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

420 general elective weighting points from the general elective units listed below.

Choose a total of **420 weighting points** elective units from the list below, of which between 0 and 60 **weighting points** can be taken from Group A; between 0 and 200 **weighting points** can be taken from Group B; and between 220 and 420 can be taken from Group C (or all 420 elective **weighting points** can be taken from Group C).

Up to 60 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-requisites 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**

UEECD0010	Compile and produce an energy sector detailed report	60
UEECD0024	Implement and monitor energy sector WHS policies and procedures	20
UEECD0027	Participate in development and follow a personal competency development plan	20
UEERE0015	Implement and monitor energy sector environmental and sustainable policies and procedures	20

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

BSBCUS201	Deliver a service to customers	20
CPCCWHS1001	Prepare to work safely in the construction industry	10
HLTAID001	Provide cardiopulmonary resuscitation	10
ICTICT203	Operate application software packages	20
UEECD0011	Comply with scheduled and preventative maintenance program processes	20
UEECD0035	Provide basic instruction in the use of electrotechnology apparatus	20
UEECO0002	Maintain documentation	20
UEECO0015	Provide quotations for installation or service jobs	20

UEECO0017	Source and purchase material/parts for installation or service jobs	20
Group B: General elective units		Weighting Points
UEEAS0007	Assemble, mount and connect control gear and switchgear*	40
UEEAS0008	Fabricate and assemble bus bars*	40
UEEAS0009	Mount and wire control panel equipment*	40
UEECD0050	Use and maintain the integrity of a portable gas detection device*	20
UEECS0033	Use engineering applications software on personal computers	40
UEEDV0001	Assemble and connect telecommunication frames and cabinets*	60
UEEDV0005	Install and maintain cabling for multiple access to telecommunication services*	80
UEEDV0008	Install, modify and verify coaxial and structured communication copper cabling*	40
UEEEC0060	Repairs basic electronic apparatus faults by replacement of components*	40
UEEEC0075	Troubleshoot single phase input d.c power supplies*	40
UEEEL0004	Carry out basic repairs to electrical components and equipment*	40
UEEEL0016	Provide advice on effective and energy efficient lighting products	20
UEEEL0017	Repair and maintain mechanical components of electrical machines*	40
UEEEL0022	Supply effective and efficient lighting products for domestic and small commercial applications*	40
UEEEL0026	Align and install traction lift equipment*	20
UEEEL0033	Conduct electrical tests on LV electrical machines*	40

UEEEL0034	Conduct mechanical tests on electrical machines and components*	40
UEEEL0045	Diagnose and rectify faults in traction lift systems*	80
UEEEL0046	Find and repair faults in LV d.c. electrical apparatus and circuits*	60
UEEEL0052	Maintain and service traction lift systems and equipment*	40
UEEEL0053	Maintain operation of electrical marine equipment and systems*	60
UEEEL0054	Maintain operation of electrical mining equipment and systems*	60
UEEEL0055	Overhaul and repair major switchgear and control gear*	60
UEEEL0056	Place and connect electrical coils*	40
UEEEL0061	Provide advice on the application of energy efficient lighting for ambient and aesthetic effect*	20
UEEEL0066	Rewind LV direct current machines*	60
UEEEL0067	Rewind single phase machines*	40
UEEEL0068	Rewind three phase low voltage induction machines*	60
UEEEL0074	Wind electrical coils*	40
UEEHA0003	Determine the explosion-protection requirements to meet a specified classified hazardous area*	40
UEEHA0004	Enter a classified hazardous area to undertake work related to electrical equipment	40
UEEHA0006	Maintain equipment associated with hazardous areas*	60
UEEHA0010	Supervise repair and overhaul of explosion-protected equipment type Group III ('t')*	60
UEEHA0011	Supervise repair and overhaul of explosion-protected equipment type flameproof (Ex d)*	60
UEEHA0012	Supervise repair and overhaul of explosion-protected	60

	equipment type increased safety (Ex e)*	
UEEHA0013	Supervise repair and overhaul of explosion-protected equipment type intrinsically safe (Ex i)*	60
UEEHA0014	Supervise repair and overhaul of explosion-protected equipment type pressurised (Ex p)*	60
UEEHA0015	Supervise repair and overhaul of explosion-protected rotating machines*	60
UEEIC0002	Assemble, enter and verify operating instructions in microprocessor equipped devices*	20
UEEIC0013	Develop, enter and verify discrete control programs for programmable controllers*	60
UEEIC0022	Install instrumentation and control apparatus and associated equipment*	20
UEEIC0023	Install instrumentation and control cabling and tubing*	20
UEEIC0038	Solve problems in density/level measurement components and systems*	40
UEEIC0039	Solve problems in flow measurement components and systems*	40
UEEIC0041	Solve problems in pressure measurement components and systems*	40
UEEIC0043	Solve problems in temperature measurement components and systems*	40
UEEIC0047	Use instrumentation drawings, specifications, standards and equipment manuals*	40
UEERA0031	Diagnose and rectify faults in air conditioning and refrigeration control systems*	60
UEERA0035	Establish the basic operating conditions of air conditioning systems*	20
UEERA0036	Establish the basic operating conditions of vapour compression systems*	60
UEERA0037	Establish the basic operating conditions of vapour compression systems - appliances*	50

UEERA0043	Find and rectify faults in appliance control systems and devices*	60
UEERA0044	Find and rectify faults in single phase motors and associated controls*	40
UEERA0045	Find and rectify faults in three phase motors and associated controls*	30
UEERA0049	Install and start up single head split air conditioning and water heating heat pump systems*	70
UEERA0050	Install refrigerant pipe work, flow controls and accessories*	60
UEERA0059	Prepare and connect refrigerant tubing and fittings*	40
UEERA0062	Recover and charge refrigerants*	40
UEERA0063	Recover, pressure test, evacuate, charge and leak test refrigerants - appliances*	50
UEERA0079	Safely handle refrigerants and lubricants*	40
UEERA0083	Service and repair microwave ovens*	40
UEERA0085	Service clothes washing machines and dryers*	40
UEERA0086	Service dishwasher machines*	40
UEERA0087	Service electrical heating appliances*	60
UEERA0088	Service gas heating appliances*	40
UEERA0089	Service refrigeration appliances*	60
UEERA0091	Service small electrical appliances and power tools*	60
UEERA0092	Solve problems in low voltage refrigeration and air conditioning circuits*	40
UEERS0001	Assemble and wire internal electrical rail signalling equipment*	30
UETTDRIS43	Perform low voltage field switching operation to a given schedule*	50

UETTDRIS44	Perform HV field switching operation to a given schedule*	40
UETTDRIS47	Sample, test, filter and reinstate insulating oil*	40
UETTDRIS67	Solve problems in energy supply network equipment*	80
UETTDRIS68	Solve problems in energy supply network protection equipment and systems*	40
UETTDRSB29	Maintain capacitor bank equipment for voltage regulation*	40
UETTDRSB39	Perform power system substation switching operation to a given schedule*	50

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

UEEEL0007	Develop detailed electrical drawings*	60
UEEEL0032	Conduct electrical tests on HV electrical machines*	60
UEEEL0044	Diagnose and rectify faults in complex lift systems*	40
UEEEL0059	Plan low voltage switchboard and control panel layouts*	40
UEEEL0064	Rewind HV three phase induction machines rated for voltages above 3.3 kV*	60
UEEEL0065	Rewind HV three phase induction machines rated for voltages to 3.3 kV*	60
UEEHA0001	Conduct detailed inspection of electrical installations for hazardous areas*	40
UEEHA0002	Conduct visual and close inspection of electrical installations for hazardous areas*	40
UEEHA0003	Determine the explosion-protection requirements to meet a specified classified hazardous area*	40
UEEHA0004	Enter a classified hazardous area to undertake work related to electrical equipment	40
UEEHA0005	Install explosion-protected equipment and associated apparatus and wiring systems*	60

UEEHA0006	Maintain equipment associated with hazardous areas*	60
UEEHA0007	Plan electrical installations for hazardous areas*	20
UEEHA0009	Develop and manage periodic electrical inspection and maintenance programs for hazardous areas*	20
UEEIC0012	Develop structured programs to control external devices*	40
UEEIC0014	Develop, enter and verify programs in supervisory control and data acquisition systems*	60
UEEIC0015	Develop, enter and verify word and analogue control programs for programmable logic controllers*	60
UEEIC0018	Diagnose and rectify faults in digital controls systems*	60
UEEIC0020	Fault find and repair analogue circuits and components in electronic control systems*	60
UEEIC0026	Provide solutions to fluid circuit operations*	60
UEEIC0027	Provide solutions to pneumatic-hydraulic system operations*	80
UEEIC0028	Provide solutions to problems in industrial control systems*	60
UEEIC0034	Set up industrial field control devices*	60
UEEIC0040	Solve problems in polyphase electronic power control circuits*	60
UEEIC0042	Solve problems in single phase electronic power control circuits*	60

Qualification Mapping Information

This qualification replaces and is not equivalent to UEE43011 Certificate IV in Electrical Equipment and Systems

Links

Companion Volume implementation guides are found in VETNet - -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b8a8f136-5421-4ce1-92e0-2b50341431b6>

