Australian Government

UEE60920 Advanced Diploma of Renewable Energy Engineering

Release 2

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Modification History

Release 2. Updated superseded elective unit.

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

Qualification Description

This qualification provides competencies to design and validate/evaluate renewable energy (RE) equipment and systems, manage risk, estimate and manage projects and provide technical advice/sales.

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:

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

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

Choose a total of 340 **weighting points** elective units from the list below, of which between 0 and 170 **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 160 and 340 **weighting points** can be taken from Group E (or all elective units of 340 weighting points can be taken from Group E).

Up to 170 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 that 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
UEECD0003	Apply industry and community standards to engineering activities	20
UEECD0004	Apply material science to solving electrotechnology engineering problems	60
UEECD0005	Apply physics to solving electrotechnology engineering problems	60
UEECD0010	Compile and produce an energy sector detailed report	60
UEECD0014	Develop design briefs for electrotechnology projects	40
UEECD0017	Establish and follow a competency development plan in an electrotechnology engineering discipline	120
UEECD0024	Implement and monitor energy sector WHS policies and procedures	20
UEECD0026	Manage risk in electrotechnology activities	60
UEECD0036	Provide engineering solutions for problems in complex multiple path circuits	60
UEECD0039	Provide solutions to basic engineering computational problems*	60
UEECD0056	Apply methods to maintain currency of industry developments	20
UEECD0062	Write specifications for renewable energy engineering projects	40
UEECS0033	Use engineering applications software on personal computers	40
UEEEL0062	Provide engineering solutions to problems in complex polyphase power circuits*	60

UEERE0013	Develop strategies to address environmental and sustainability issues in the energy sector	20
UEERE0025	Carry out basic repairs to renewable energy (RE) apparatus*	80
UEERE0042	Manage renewable energy (RE) projects	40
UEERE0044	Plan renewable energy (RE) projects	60
UEERE0046	Solve problems in stand-alone renewable energy (RE) systems*	60

Group A: Imported and common elective units		**Weighting Points**
BSBINS501	Implement information and knowledge management systems	50
BSBSTR501	Establish innovative work environments	50
BSBSTR502	Facilitate continuous improvement	60
BSBLDR522	Manage people performance	70
BSBTWK502	Manage team effectiveness	60

Group B: Qualification elective units		**Weighting Points**
UEECD0030	Prepare electrotechnology/utilities drawings using manual drafting and CAD equipment and software*	60
UEECD0031	Prepare engineering drawings using manual drafting and CAD for electrotechnology applications*	60
UEEEC0060	Repairs basic electronic apparatus faults by replacement of components*	40
UEEEC0075	Troubleshoot single phase input d.c power supplies*	40
UEEEL0078	Install and commission whole current electricity meters*	20
UEEIC0002	Assemble, enter and verify operating instructions in microprocessor equipped devices*	20
UEEIC0013	Develop, enter and verify discrete control programs for programmable controllers*	60
UEERE0016	Install, configure and commission LV grid-connected photovoltaic power systems*	40

UEERE0022	Solve basic problems in photovoltaic energy apparatus and systems*	20
UEERE0034	Diagnose and rectify faults in renewable energy (RE) control systems*	60
UEERE0035	Install ELV stand-alone photovoltaic power systems*	60
UEERE0036	Install small wind energy conversion systems rated up to 10 kW for ELV stand-alone applications*	20
UEERE0037	Install, configure and commission LV micro-hydro systems rated up to 6.4 kW*	20
UEERE0038	Install, configure and commission LV wind energy conversion systems rated up to 10 kW*	40
UEERE0039	Install, set up and maintain ELV micro-hydro systems rated up to 6.4 kW*	20
UEERE0045	Solve basic problems in micro-hydro systems*	20
UEERE0047	Solve problems in wind energy conversion systems (WECS) rated up to 10 kW*	60

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

UEECD0032	Produce detailed electrotechnology/utilities drawings using CAD equipment and software*	60
UEECO0001	Estimate electrotechnology projects	40
UEEEL0007	Develop detailed electrical drawings*	60
UEEEL0027	Carry out low voltage electrical field testing and report findings*	60
UEEEL0040	Develop compliance policies and plans to conduct an electrical contracting business*	80
UEEEL0050	Install and replace low voltage current transformer metering*	20
UEEEL0057	Plan electrical installations with a low voltage demand up to 400 A per phase*	40
UEEEL0059	Plan low voltage switchboard and control panel layouts*	40
UEEEL0071	Select low voltage power factor correction equipment*	40

UEEEL0072	Set up and place LV electrical apparatus and associated circuits into service*	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
UEERE0003	Assess energy loads and uses for energy efficiency in commercial facilities*	40
UEERE0004	Assess energy loads and uses for energy efficiency in industrial properties and enterprises*	40
UEERE0005	Assess energy loads and uses for energy efficiency in residential, office and retail premises*	40
UEERE0011	Design grid-connected photovoltaic power supply systems*	60
UEERE0014	Develop strategies to address sustainability issues for electrical installations*	20

Group D: Qualification elective units		**Weighting Points**
UEECD0013	Develop and implement energy sector maintenance programs	60
UEECO0014	Prepare tender submissions for electrotechnology projects*	60
UEEEL0006	Develop detailed and complex drawings for electrical systems using CAD systems*	60
UEEEL0035	Design effective and efficient lighting for public, open and sports areas*	20
UEEEL0037	Design electrical installations with a low voltage demand greater than 400 A per phase*	40
UEEIC0010	Develop and test code for microcontroller devices	60
UEERE0029	Design micro-hydro systems rated to 6.4 kW*	60
UEERE0030	Design renewable energy (RE) heating systems*	120
UEERE0032	Design wind energy conversion systems (WECS) rated to 10 kW*	60

Group E: Qualification elective units		**Weighting Points**
UEECD0001	Analyse materials for suitability in electrical equipment*	80
UEECD0002	Analyse static and dynamic parameters of electrical equipment	80
UEECD0012	Contribute to risk management in electrotechnology systems	20
UEECD0029	Plan electrotechnology projects	60
UEECD0037	Provide engineering solutions for uses of materials and thermodynamic effects	80
UEECD0049	Use advanced computational processes to provide solutions to energy sector engineering problems*	80
UEECD0057	Manage electrotechnology projects	40
UEECO0003	Manage contract variations	40
UEEEL0038	Design switchboards rated for high fault levels (greater than 400 A)*	60
UEERE0010	Design energy management controls for electrical installations in buildings*	80
UEERE0012	Develop effective engineering strategies for energy reduction in buildings*	60
UEERE0028	Design hybrid renewable power systems*	80
UEERE0031	Design stand-alone renewable energy (RE) systems*	40
UEERE0033	Develop engineering solutions to renewable energy (RE) problems*	60

Qualification Mapping Information

This qualification replaces and is not equivalent to UEE60911 Advanced Diploma of Renewable Energy Engineering

Links

Companion Volume Implementation Guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b8a8f136-5421-4ce1-92e0-2b50341431b6