



Australian Government

UEE50220 Diploma of Electrical and Instrumentation

Release 2

UEE50220 Diploma of Electrical and Instrumentation

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 Updated superseded elective unit.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 covers competencies to develop, select, install, commission, maintain and diagnose faults/malfunctions on electrical, instrumentation and control equipment and systems. 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 **760 weighting points** comprising:

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

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

Choose a total of **80 weighting points** elective units from the list below, of which between 0 and 20 **weighting points** can be taken from Group A; between 0 and 20 **weighting points** can be taken from Group B; between 0 and 20 **weighting points** can be taken from Group C; and between 60 and 80 **weighting points** can be taken from Group D (or all elective **80 weighting points** can be taken from Group D).

Up to 20 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
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
UEECD0060	Write specifications for electrotechnology engineering projects	40
UEEIC0013	Develop, enter and verify discrete control programs for programmable controllers*	60
UEEIC0021	Find and rectify faults in process final control elements*	40
UEEIC0022	Install instrumentation and control apparatus and associated equipment*	20
UEEIC0023	Install instrumentation and control cabling and tubing*	20
UEEIC0029	Set up and adjust PID control loops*	40
UEEIC0030	Set up and adjust advanced PID process control loops*	40
UEEIC0031	Set up and configure human-machine interface (HMI) and industrial networks*	60
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	40

	and equipment manuals*	
UEEIC0048	Verify compliance and functionality of instrumentation and control installations*	40
UEERE0013	Develop strategies to address environmental and sustainability issues in the energy sector	20
Group A: Imported and common elective units		Weighting Points
BSBOPS203	Deliver a service to customers	20
BSBINS501	Implement information and knowledge management systems	50
BSBLDR522	Manage people performance	70
BSBSTR501	Establish innovative work environments	50
BSBSTR502	Facilitate continuous improvement	60
BSBTWK502	Manage team effectiveness	60
ICTICT214	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
UEECS0033	Use engineering applications software on personal computers	40
UEEEC0060	Repairs basic electronic apparatus faults by replacement of components*	40
UEEEC0075	Troubleshoot single phase input d.c power supplies*	40
UEEEL0053	Maintain operation of electrical marine equipment and systems*	60

UEEEL0054	Maintain operation of electrical mining equipment and systems*	60
UEEHA0026	Maintain equipment associated with hazardous areas*	60
UEEIC0002	Assemble, enter and verify operating instructions in microprocessor equipped devices*	20
UEEIC0011	Develop electrical integrated systems*	20
UEEIC0024	Plan the electrical installation of integrated systems*	20

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

UEECO0001	Estimate electrotechnology projects	40
UEEEL0007	Develop detailed electrical drawings*	60
UEEIC0009	Develop an electrical integrated system interface for access through a touch screen*	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
UEEIC0040	Solve problems in polyphase electronic power control circuits*	60
UEEIC0042	Solve problems in single phase electronic power control circuits*	60

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

UEEEL0006	Develop detailed and complex drawings for electrical systems using CAD systems*	60
-----------	---	----

UEEIC0001	Analyse complex electronic circuits controlling fluids	80
UEEIC0005	Configure and maintain industrial control system networks*	60
UEEIC0010	Develop and test code for microcontroller devices	60
UEEIC0016	Diagnose and rectify faults in a.c. motor drive systems*	60
UEEIC0017	Diagnose and rectify faults in d.c. motor drive systems*	60
UEEIC0019	Diagnose and rectify faults in servo drive systems*	60

Qualification Mapping Information

This qualification replaces and is not equivalent to UEE50211 Diploma of Electrical and Instrumentation

Links

Companion Volume Implementation Guides are found in VETNet -

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