Australian Government

UEE61720 Advanced Diploma of Engineering Technology – Electronics

Release 1

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Modification History

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

Qualification Description

This qualification covers competencies to design and validate/evaluate electronics and/or communication equipment and systems and provide technical advice/sales.

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

Entry Requirements

There are no entry requirements for this qualification.

Packaging Rules

A total of **2160 weighting points** comprising:

1160 core weighting points listed below; **plus**

1000 general elective weighting points from the general elective units listed below.

Choose a total of 1000 **weighting points** elective units from the list below, of which between 0 and 360 **weighting points** can be taken from Group A; and between 0 and 200 **weighting points** must be taken from Group B; and between 0 and 200 **weighting points** must be taken from Group C; and between 0 and 300 **weighting points** must be taken from Group D; and between 280 and 900 **weighting points** must be taken from Group E.

Up to 360 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
UEECD0004	Apply material science to solving electrotechnology engineering problems	60
UEECD0005	Apply physics to solving electrotechnology engineering problems	60
UEECD0007	Apply work health and safety regulations, codes and practices in the workplace	20
UEECD0010	Compile and produce an energy sector detailed report	60
UEECD0014	Develop design briefs for electrotechnology projects	40
UEECD0016	Document and apply measures to control WHS risks associated with electrotechnology work*	20
UEECD0019	Fabricate, assemble and dismantle utilities industry components*	40
UEECD0024	Implement and monitor energy sector WHS policies and procedures	20
UEECD0027	Participate in development and follow a personal competency development plan	20
UEECD0036	Provide engineering solutions for problems in complex multiple path circuits	60
UEECD0039	Provide solutions to basic engineering computational problems*	60
UEECD0043	Solve problems in direct current circuits*	80
UEECD0051	Use drawings, diagrams, schedules, standards, codes and specifications*	40
UEECS0003	Assemble, set up and test computing devices*	80
UEECS0033	Use engineering applications software on personal computers	40
UEEEC0011	Design and develop electronics/computer systems projects	40

UEEEC0060	Repairs basic electronic apparatus faults by replacement of components*	40
UEEEC0063	Solve fundamental electronic communications system problems*	40
UEEEC0066	Troubleshoot amplifiers in an electronic apparatus*	80
UEEEC0067	Troubleshoot basic amplifier circuits*	40
UEEEC0069	Troubleshoot digital sub-systems*	80
UEEEC0074	Troubleshoot resonance circuits in an electronic apparatus*	80
UEEEC0075	Troubleshoot single phase input d.c power supplies*	40
UEERE0013	Develop strategies to address environmental and sustainability issues in the energy sector	20

Group A: Imported and common elective units.		**Weighting Points**
BSBCUS201	Deliver a service to customers	20
BSBINM501	Manage an information or knowledge management system	50
BSBINN502	Build and sustain an innovative work environment	50
BSBMGT502	Manage people performance	70
BSBMGT516	Facilitate continuous improvement	60
BSBWOR502	Lead and manage team effectiveness	60
ICTICT203	Operate application software packages	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: Qualification elective units.		**Weighting Points**
UEEAS0001	Assemble electronic components*	40
UEEAS0002	Conduct quality and functional tests on assembled electronic apparatus*	20
UEEAS0003	Modify electronic sub-assemblies*	40
UEEAS0004	Select electronic components for assembly*	20
UEEAS0005	Set up and check electronic component assembly machines*	40
UEEAS0006	Use lead-free soldering techniques*	40
UEECD0008	Carry out preparatory energy sector work activities*	60
UEECD0020	Fix and secure electrotechnology equipment*	20
UEECD0021	Identify and select components, accessories and materials for energy sector work activities*	20
UEECD0025	Lay wiring/cabling and terminate accessories for extra-low voltage (ELV) circuits*	40
UEECD0028	Plan an integrated cabling installation system*	40
UEECD0040	Solve basic problems electronic and digital equipment and circuits*	80
UEECS0018	Develop web pages for engineering applications	40
UEECS0022	Install and configure a client computer operating system and software	40
UEECS0028	Select, install, configure and test multimedia components	40
UEECS0029	Set up and configure basic local area network (LAN)*	80
UEECS0032	Support computer hardware and software for engineering applications	120
UEEDV0004	Install and connect data and voice communication equipment*	40

UEEDV0005	Install and maintain cabling for multiple access to telecommunication services*	80
UEEDV0006	Install and modify optical fibre performance data communication cabling*	40
UEEDV0008	Install, modify and verify coaxial and structured communication copper cabling*	40
UEEDV0009	Select and arrange data and voice equipment for local area networks*	40
UEEDV0010	Select and arrange equipment for wireless communication networks*	40
UEEDV0011	Set up and configure basic data communication systems*	40
UEEDV0012	Set up and configure the wireless capabilities of communications and data storage devices	40
UEEDV0014	Test, report and rectify faults in data and voice installations*	40
UEEEC0003	Assemble and set up basic security systems*	80
UEEEC0004	Assemble and set up fixed video/audio components and systems in buildings and premises*	120
UEEEC0006	Carry out repairs of predictable faults in video and audio replay/recording apparatus*	120
UEEEC0019	Develop software solutions for microcontroller-based systems*	60
UEEEC0027	Enter instructions and test wired and wireless security systems*	40
UEEEC0028	Fault find and repair complex power supplies*	40
UEEEC0029	Fault find and repair electronic apparatus*	40
UEEEC0038	Find and repair microwave amplifier section faults in electronic apparatus*	40
UEEEC0046	Operate and maintain amateur radio communication stations*	40

UEEEC0055	Repair basic computer equipment faults by replacement of modules/sub-assemblies*	40
UEEEC0056	Repair predictable faults in audio components*	40
UEEEC0057	Repair predictable faults in general electronic apparatus*	40
UEEEC0058	Repair predictable faults in television receivers*	120
UEEEC0059	Repair routine business equipment faults*	120
UEEEC0062	Set up and test residential video/audio equipment*	40
UEEEC0064	Solve oscillator problems*	40
UEEEC0068	Troubleshoot communication systems*	80
UEEEC0070	Troubleshoot faults in television receivers*	120
UEEEC0072	Troubleshoot microcontroller-based hardware systems	40
UEEEC0077	Verify functionality and compliance of custom electronic installations*	40
UEEIC0002	Assemble, enter and verify operating instructions in microprocessor equipped devices*	20
UEEIC0013	Develop, enter and verify discrete control programs for programmable controllers*	60
UEERE0015	Implement and monitor energy sector environmental and sustainable policies and procedures	20

Group C: Qualification elective units.		**Weighting Points**
UEECO0001	Estimate electrotechnology projects	40
UEECO0013	Prepare specifications for the supply of materials and equipment for electrotechnology projects	40
UEECS0014	Develop computer network services*	120
UEECS0021	Install and administer UNIX/LINUX-based networked computers	80

UEECS0023	Install and configure network systems for internetworking*	120
UEECS0024	Integrate multiple computer operating systems on a client server local area network	80
UEECS0030	Set up, configure and test biometric devices	40
UEEEC0012	Design custom electronic equipment installations*	120
UEEEC0015	Develop basic plans for integrating security systems*	40
UEEEC0022	Diagnose and rectify faults in camera circuits and equipment*	60
UEEEC0024	Diagnose and rectify faults in electronic display circuits*	60
UEEEC0025	Diagnose and rectify faults in recording and replay equipment	60
UEEEC0037	Fault find and repair telecommunication apparatus and systems*	60
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

Group D: Qualification elective units.		**Weighting Points**
UEECD0001	Analyse materials for suitability in electrical equipment*	80
UEECD0002	Analyse static and dynamic parameters of electrical equipment	80
UEECD0037	Provide engineering solutions for uses of materials and thermodynamic effects	80
UEECD0053	Write specifications for computer systems engineering projects	40
UEECO0014	Prepare tender submissions for electrotechnology projects*	60

UEECS0001	Administer computer networks	80
UEECS0002	Analyse and implement biometric measuring techniques and applications	120
UEECS0004	Commission industrial computer systems*	20
UEECS0013	Develop and validate biometric equipment/systems installation	120
UEECS0019	Develop, implement and test object-oriented code*	140
UEECS0025	Modify/redesign industrial computer systems*	20
UEECS0031	Set up, create and implement content for a web server*	120
UEEEC0001	Analyse the performance of wireless-based electronic communication systems*	40
UEEEC0010	Design and develop advanced digital systems	40
UEEEC0013	Design electronic printed circuit boards*	40
UEEEC0016	Develop engineering solutions to RF amplifier problems*	40
UEEEC0018	Develop engineering solutions to audio electronic problems*	60
UEEEC0054	Provide gate array solutions for complex electronics systems*	60
UEEIC0005	Configure and maintain industrial control system networks*	60
UEEIC0010	Develop and test code for microcontroller devices	60

Group E: Qualification elective units.		**Weighting Points**
UEECD0015	Develop engineering solutions to photonic system problems*	80
UEECD0049	Use advanced computational processes to provide solutions to energy sector engineering problems*	80
UEECS0005	Design and implement advanced routing for internetworking systems	100

UEECS0006	Design and implement multi-layer switching for internetworking systems	100
UEECS0007	Design and implement network systems for internetworking	120
UEECS0008	Design and implement remote access for internetworking systems	100
UEECS0009	Design and implement security for internetworking systems	100
	Design and implement wireless LANs/WANs for internetworking systems	100
UEECS0011	Design and manage enterprise computer networks	80
UEECS0012	Design embedded controller control systems	80
UEECS0017	Develop industrial control programs for microcomputer equipped devices	60
UEECS0027	Provide programming solution for computer systems engineering problems	60
UEEEC0005	Assess electronic apparatus compliance	60
UEEEC0014	Design signal-conditioning sub-systems	80
UEEEC0045	Modify digital signal processing (DSP) based sub-systems	80
UEEEC0047	Plan large electronic projects	60
UEEIC0007	Design and use advanced programming tools, PC networks and HMI Interfacing	120

Qualification Mapping Information

This qualification replaces and is equivalent to UEE61711 Advanced Diploma of Engineering Technology - Electronics

Links

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