Australian Government

Department of Education, Employment and Workplace Relations

UEE60210 Advanced Diploma of Electronics and Communications Engineering

ISC INDUSTRY SKILLS COUNCILS
Creating Australia's Future

UEE60210 Advanced Diploma of Electronics and Communications Engineering

Modification History

Not Applicable

Description

Scope
This qualification provides competencies to design and validate/evaluate electronics and communication equipment and systems, manage risk, estimate and manage projects and provide technical advice/sales.

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:

	Weighting Points
• All the Core competency standard units, **and** • A combination of Elective competency standard units selected from Group A, B, C, D and/or Group E to achieve a total weighting of 1880 points, **and** • All the required pre-requisite competency standard units.	
Core Competency Standard Units All Core competency standard units to be achieved	
UEENEEE001B	Apply OHS practices in the workplace	20
UEENEEE015B	Develop design brief for electrotechnology projects	40
UEENEEE017B	Implement and monitor OHS policies and procedures	20
UEENEEE034B	Document occupational hazards and risks in electronics	20
UEENEEE038B	Participate in development and follow a personal competency development plan	20
UEENEEE078B	Contribute to risk management in electrotechnology systems	20
UEENEEH041B	Manage electronics/computer systems projects	40
UEENEEH067B	Commission electronics and communications systems	20
UEENEEH068B	Modify-redesign of electronics and communications system	20
UEENEEK045A	Implement&monitor, policies&procedures for environmentally sustainable	20

	electrotech work practice	
UEENEEH088B	Design and develop electronics/computer systems projects	40
Total points in core		**280**

Elective Competency Standard Units
Complete Elective units to achieve a total of weighting of 1880 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 6. If units have not being assigned a weighting in the Electrotechnology Training Package, their weighting will be 10 points.	0	360
B	**Qualification Electives - Schedule 2-3 Units**	0	900
C	**Qualification Electives - Schedule 4 Units**	0	280
D	**Qualification Electives - Schedule 5 Units**	0	260
E	**Qualification Electives - Schedule 6 Units** You may select the majority of your elective units from this Group	520	1320

Group A - Imported and Common Elective Units		Weighting Points
BSBMGT502B	Manage people performance	70
BSBINM501A	Manage an information or knowledge management system	50
BSBMGT516C	Facilitate continuous improvement	60
BSBINN502A	Build and sustain an innovative work environment	50
BSBWOR502B	Ensure team effectiveness	60
ICTTEN3056A	Install telecommunications network equipment	40
MCMS200A	Apply competitive manufacturing practices	20
MCMT220A	Apply quick changeover procedures	20
MCMT221A	Apply Just in Time (JIT) procedures	20
MCMT240A	Apply 5S procedures in a manufacturing environment	20
MCMT280A	Undertake root cause analysis	20
MCMT281A	Contribute to the application of a proactive maintenance strategy	20
	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 6. If units have not being assigned a weighting in the Electrotechnology Training Package, their weighting will be 10 points.	Up to 360 points

	Note: For further information see *Transition to NQC Packaging Rules for Flexibility*, Page 48, UEE07 Electrotechnology Training Package, Version 4,Volume 1 Preliminary Information.	

Group B - **Qualification Electives** - **Schedule 2-3 Units**		**Weighting Points**
UEENEEA001B	Assemble electronic apparatus	40
UEENEEA002B	Select electronic components	20
UEENEEA003B	Set up and check electronic component placement machines	40
UEENEEA004B	Rework electronic sub assemblies	40
UEENEEA005B	Conduct functional and quality tests on assembled electronic apparatus	20
UEENEEA006B	Apply lead-free soldering techniques	40
UEENEEB001B	Operate and maintain an amateur radio communication station	40
UEENEED002B	Assemble, set up and test personal computers	80
UEENEED004B	Use engineering applications software	40
UEENEED005B	Enter and verify operating instructions in microprocessor equipped devices	20
UEENEED012B	Support computer hardware and software	120
UEENEED029B	Develop basic web pages for engineering applications	40
UEENEED030B	Select, install, configure and test	40

	multimedia devices	

UEENEED031B	Develop and validate basic integrated systems	60
UEENEED043B	Install and configure a computer operating system and software	40
UEENEED046B	Set up and configure basic local area network	40
UEENEED053B	Set up and test biometric devices	40
UEENEEE002B	Dismantle, assemble and fabricate electrotechnology components	40
UEENEEE003B	Solve problems in extra-low voltage single path circuits	40
UEENEEE004B	Solve problems in multiple path d.c. circuits	40
UEENEEE005B	Fix and secure equipment	20
UEENEEE007B	Use drawings, diagrams, schedules and manuals	40
UEENEEE008B	Lay wiring/cabling and terminate accessories for extra-low voltage circuits	40
UEENEEE019C	Solve problems in multiple path a.c. circuits	40
UEENEEE021B	Plan an integrated cabling system	40
UEENEEE022B	Carry out preparatory electrotechnology work activities	60
UEENEEE023B	Solve basic problems in electronic and digital equipment	80
UEENEEE041B	Use of routine equipment/plant/technologies in an electrotechnology environment	60
UEENEEE046B	Identify affects of energy on machinery and materials in an	120

	electrotechnology environment	

UEENEEE048C	Carry out routine work activities in an electrotechnology environment	40
UEENEEE050B	Undertake computations in an electrotechnology environment	120
UEENEEE079A	Identify and select components, accessories and materials for electrotechnology work activities	20
UEENEEF002B	Lay and connect cables for multiple access to telecommunication services	120
UEENEEF004B	Install and modify performance data communication structured cabling	40
UEENEEF005B	Install and modify performance data communication optical fibre cabling	40
UEENEEF006B	Solve problems in data and voice communications circuits	40
UEENEEF007B	Set up wireless capabilities of communications and data storage devices	40
UEENEEF008B	Select and arrange equipment for wireless networks	60
UEENEEF009B	Install and connect voice and data communications equipment	40
UEENEEF010B	Select and arrange equipment for local area networks	120
UEENEEF011B	Test, report and rectify faults in voice and data installations	60
UEENEEF014B	Set up and configure basic data communications systems	40
UEENEEH001B	Carry out basic repairs to computer equipment by replacement of modules/sub-	40

	assemblies	

UEENEEH002B	Carry out basic repairs to electronic apparatus by replacement of components	40
UEENEEH003B	Carry out routine repairs to business equipment	120
UEENEEH004B	Set up and test residential audio/video equipment	40
UEENEEH005B	Verify compliance and functionality of custom electronic installations	40
UEENEEH006B	Assemble and set up fixed audio/video components and systems in buildings and premises	120
UEENEEH007B	Carry out repairs of predictable faults in general electronic apparatus	40
UEENEEH008B	Assemble and erect reception antennae and signal distribution equipment	60
UEENEEH009B	Set up and test gaming/games equipment	60
UEENEEH010B	Install commercial audio/video system components	120
UEENEEH011B	Troubleshoot d.c. power supplies with single phase input	40
UEENEEH012B	Troubleshoot digital subsystems	80
UEENEEH013B	Troubleshoot amplifiers	80
UEENEEH014B	Troubleshoot frequency dependent circuits	80
UEENEEH015B	Develop software solutions in microcontroller based systems	60
UEENEEH016B	Find and repair faults in the microwave amplifier sections of	40

	electronic apparatus	

UEENEEH017B	Carry out repairs of predictable faults in audio and video replay/recording apparatus	120
UEENEEH018B	Find and repair faults in electronic apparatus	40
UEENEEH019B	Carry out repairs of predictable faults in television receivers	120
UEENEEH020B	Find and repair faults in gaming and games equipment	80
UEENEEH021B	Find and repair faults in high volume office equipment	120
UEENEEH022B	Find and repair faults in remote control apparatus	60
UEENEEH023B	Find and repair faults in microwave heating apparatus	40
UEENEEH024B	Carry out repairs of predictable faults in audio components	40
UEENEEH027B	Commission commercial radio frequency (RF) transmission and reception systems	60
UEENEEH028B	Install microwave and antennae and waveguides	60
UEENEEH038B	Find and repair faults in complex power supplies	40
UEENEEH039B	Troubleshoot basic amplifiers	40
UEENEEH042B	Troubleshoot oscillators	40
UEENEEH046B	Solve fundamental problems in electronic communications systems	40
UEENEEH050B	Assemble and set up basic wired and wireless security systems	80
UEENEEH051B	Install large wired and wireless security systems	100

UEENEEH052B	Enter instructions and test basic wired and wireless security systems	40
UEENEEH054B	Program and commission commercial security alarm systems	60
UEENEEH055B	Program and commission commercial security access control systems	60
UEENEEH056B	Program and commission commercial security closed circuit television (CCTV) systems	60
UEENEEH061B	Position and terminate fire detection and warning system apparatus	40
UEENEEH062B	Verify compliance and functionality of fire protection installations	60
UEENEEH063B	Enter and verify programs in preparation for commissioning fire protection systems	40
UEENEEH064B	Commission commercial fire protection systems	40
UEENEEH065B	Find and repair faults in fire protection systems	40
UEENEEH066B	Fault find Microcontroller based hardware	40
UEENEEH069B	Solve problems in electronic circuits	100
UEENEEH070B	Terminate and connect components, conductors, wiring and cables for electronic circuits	40
UEENEEH071B	Find and repair faults in television receivers	120

UEENEEH072C	Find and repair faults in communication systems	80
UEENEEH073B	Find and repair faults in professional audio reproduction components	120
UEENEEH074B	Find and repair faults in audio/video recording equipment	120
UEENEEH087B	Solve problems in musical equipment circuits	40
UEENEEI001B	Install and set up transducers and sensing devices	40
UEENEEI017B	Calibrate and test measuring instruments	40

Group C - Qualification Electives - Schedule 4 Units		Weighting Points
UEENEEC004B	Prepare specifications for the supply of materials and equipment for electrotechnology projects	40
UEENEEC005B	Estimate electrotechnology projects	40
UEENEED003B	Evaluate and modify programs written in object oriented code	40
UEENEED010B	Set up and create content for a web server	120
UEENEED027B	Develop structured programs to control external devices	40
UEENEED032B	Design integrated systems	60
UEENEED033B	Design complex integrated systems	60
UEENEED034B	Configure and maintain industrial control system networks	60

UEENEED054B	Analyse and implement biometric techniques and applications	120
UEENEEE010B	Develop and implement maintenance programs	60
UEENEEE014B	Supervise and coordinate work activities	40
UEENEEE018B	Establish, maintain and evaluate OHS systems	60
UEENEEE024C	Compile and produce an electrotechnology report	60
UEENEEH025B	Provide solutions to single phase electronic power control problems	60
UEENEEH026B	Provide solutions to polyphase electronic power control problems	60
UEENEEH029B	Diagnose and rectify faults in navigation systems	60
UEENEEH030B	Diagnose and rectify faults in satellite-based surveillance and observation systems	60
UEENEEH031B	Diagnose and rectify faults in radar apparatus and systems	120
UEENEEH032B	Diagnose and rectify faults in global positioning systems	60
UEENEEH033B	Diagnose and rectify faults in telecommunication apparatus and systems	60
UEENEEH034B	Diagnose and rectify faults in electronic medical equipment	120
UEENEEH035B	Design custom electronic installations	120
UEENEEH036B	Design commercial audio/video	120

	installations	

UEENEEH037B	Program and commission commercial audio/video systems	40
UEENEEH040B	Diagnose and rectify faults in sonar apparatus and systems	120
UEENEEH043B	Diagnose and rectify faults in digital subsystems of electronic controls	60
UEENEEH044B	Diagnose and rectify faults in analogue circuits and components in electronic control systems	60
UEENEEH053B	Program and test large wired and wireless security systems	120
UEENEEH075B	Find and rectify faults and malfunctions in security system installations	60
UEENEEH076B	Diagnose and rectify faults in display circuits	60
UEENEEH077B	Diagnose and rectify faults in recording and replay apparatus	60
UEENEEH078B	Diagnose and rectify faults in camera circuits	60
UEENEEH079B	Diagnose and rectify faults in digital television apparatus	80
UEENEEH080B	Diagnose and rectify faults in digital transmission systems	80
UEENEEH086B	Commission microwave and satellite communication systems	40
UEENEEI020B	Provide solutions to problems in basic industrial control systems	60

Group D - Qualification Electives - Schedule 5 Units		Weighting Points
UEENEEC006B	Prepare tender submissions for electrotechnology projects	60

UEENEED025B	Design and configure Human-Machine Interface networks	60
UEENEED028B	Develop and test code for microcontroller devices	60
UEENEED050B	Develop control programs for microcomputer equipped devices	60
UEENEED051B	Provide programming solution for engineering problems	60
UEENEEE025B	Solve problems in complex multiple path circuits	60
UEENEEE026B	Provide computational solutions to basic engineering problems	40
UEENEEE060B	Provide solutions for uses of materials and thermodynamic effects	100
UEENEEE072B	Write specifications for electronics and communications engineering projects	40
UEENEEH045B	Develop solutions to analogue electronic problems	80
UEENEEH048B	Design and develop advanced digital systems	40
UEENEEH049B	Develop solutions to audio electronic problems	60
UEENEEH057B	Develop basic integrated security systems plan	40
UEENEEH081B	Design printed circuit boards	40
UEENEEH082B	Develop solutions to RF amplifiers problems	40
UEENEEH083B	Analyse the performance of wireless-based electronic systems	40

Group E - Qualification Electives - Schedule 6 Units You may select the majority of your elective units from this Group		Weighting Points
UEENEEC007B	Manage contract variations	40
UEENEED026B	Design a computer based control system	120
UEENEED052B	Design embedded controller systems	80
UEENEED055B	Develop and validate biometric systems installation instructions	120
UEENEEE011C	Manage risk in electrotechnology activities	100
UEENEEE027B	Use advanced computational processes to provide solutions to engineering problems	80
UEENEEE028B	Develop engineering solutions to photonic problems	80
UEENEEE029B	Solve electrotechnical problems	60
UEENEEE063B	Analyse materials for suitability in equipment	80
UEENEEH047B	Assess compliance of electronic apparatus	60
UEENEEH058B	Design integrated security systems for a single site	40
UEENEEH059B	Design integrated complex security systems	60
UEENEEH060B	Plan electronic projects	60
UEENEEH084B	Modify DSP based sub-systems	80
UEENEEH085B	Design a signal-conditioning subsystem	80
UEENEEH088B	Design and develop electronics/computer systems	40

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	projects	
UEENEEI023B	Design electronic control systems	60
UEENEEI030B	Set up electronically controlled robotically operated complex systems	80

Note: 1.   Pre-requisite 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 pre-requisite pathway for the progression to achieve particular competencies or qualification at a higher level.

3.   Registered training organisations shall also provide information related to the relevant pathway(s) that may be taken to achieve paraprofessional status ("associate membership") with a professional engineering membership organisation.

END OF QUALIFICATION