Australian Government

UEE60411 Advanced Diploma of Computer Systems Engineering

Release 5

INDUSTRY SKILLS COUNCILS
Creating Australia's Future

UEE60411 Advanced Diploma of Computer Systems Engineering

Modification History

Release	Action	Core/Elective	Details	Points
2	Add	Group E	UEENEEE081A Apply material science to solving electrotechnology engineering problems	60
2	Add	Group E	UEENEEE082A Apply physics to solving electrotechnology engineering problems	60
2	Add	Group B	UEENEEF110A Select and arrange data and voice equipment for local area networks	40
2	Add	Group C	UEENEED116A Develop computer network services	120
2	Edit		Edit Name to reflect correct Unit title UEENEED104A Use engineering applications software on personal computers	40
2	Edit		Edit Name to Reflect correct Unit Title UEENEEI124A Fault find and repair analogue circuits and components in electronic control systems	
3	Add	Group E	UEENEEH189A Provide Gate Array solutions for complex electronics systems	60
4	Add	Group A	ICTTEN4210A Implement and troubleshoot enterprise routers and switches	100
4	Add	Group A	ICTTEN4211A Design, install and configure an internetwork	100
4	Add	Group A	ICTTEN4212A Apply advanced routing protocols to network design	80
4	Add	Group A	ICTTEN4213A Configure and troubleshoot advanced network switching	80
4	Add	Group A	ICTTEN4214A Install and maintain a wide	80

			area network	
4	Add	Group C	UEENEEK145A Implement and monitor energy sector environmental and sustainable energy policies and procedures	20
4	Edit	Core	Correct title of UEENEEE015B - Develop design briefs for electrotechnology projects	40
4	Edit	Core	Correct title of UEENEEH188A - Design and develop electronics - computer systems projects	40
4	Edit	Elective	Correct title of UEENEEE125A - Provide engineering solutions for problems in complex multiple path circuits	60
4	Edit	Elective	Correct title of UEENEEH183A - Analyse the performance of wireless-based electronic - communication systems	40

5	Update	Group A	Correct core/elective metadata mapping ICTTEN4210A Implement and troubleshoot enterprise routers and switches	
5	Update	Group A	Correct core/elective metadata mapping ICTTEN4211A Design, install and configure an internetwork	
5	Update	Group A	Correct core/elective metadata mapping ICTTEN4212A Apply advanced routing protocols to network design	
5	Update	Group A	Correct core/elective metadata mapping ICTTEN4213A Configure and troubleshoot advanced network switching	
5	Update	Group A	Correct core/elective metadata mapping ICTTEN4214A Install and maintain a wide area network	

Description

Scope
This qualification provides competencies to design, install/validate/evaluate and administer computer 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:

- All the Core competency standard units, defined in the Core Competency Standard Units table below and
- A combination of Elective competency standard units to achieve a total weighting of 1880 points in accordance with the Elective Competency Standard Units table below.

Core Competency Standard Units All Core competency standard units to be achieved		**Weighting Points**
UEENEED144A	Commission industrial computer systems	20
UEENEED145A	Modify-redesign of industrial computer systems	20
UEENEEE015B	Develop design briefs for electrotechnology projects	40
UEENEEE038B	Participate in development and follow a personal competency development plan	20
UEENEEE078B	Contribute to risk management in electrotechnology systems	20
UEENEEE101A	Apply Occupational Health and Safety regulations, codes and practices in the workplace	20
UEENEEE117A	Implement and monitor energy sector OHS policies and procedures	20
UEENEEE137A	Document and apply measures to control OHS risks associated with electrotechnology work	20
UEENEEH141A	Manage computer systems/electronics projects	40
UEENEEH188A	Design and develop electronics - computer systems projects	40
UEENEEK132A	Develop strategies to address environmental and sustainability issues in the energy sector	20
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 by the relevant EE-Oz Industry Technical Advisory Committee, their weighting will be 10 points.	0	360
B	**Qualification Elective Units**	0	900
C	**Qualification Elective Units**	0	280
D	**Qualification Elective Units**	0	280
E	**Qualification Elective Units** You may select the majority of your elective units from this Group	420	1600

Group A – Imported and Common Elective Units You may complete units to a maximum weighting of 360		**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
ICTTEN4210A	Implement and troubleshoot enterprise routers and switches	100
ICTTEN4211A	Design, install and configure an internetwork	100
ICTTEN4212A	Apply advanced routing protocols to network design	80
ICTTEN4213A	Configure and troubleshoot advanced network	80

	switching	
ICTTEN4214A	Install and maintain a wide area network	80
	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 by the relevant EE-Oz Industry Technical Advisory Committee, their weighting will be 10 points. Note: For further information see Application of the NQC Flexibility Formula, UEE11 Electrotechnology Training Package, Version 1, Volume 1 Qualification Framework	Up to 360 points

Group B – Qualification Elective Units You may complete units to a maximum weighting of 900		**Weighting Points**
UEENEEA101A	Assemble electronic components	40
UEENEEA102A	Select electronic components for assembly	20
UEENEEA104A	Modify electronic sub assemblies	40
UEENEEA106A	Use lead-free soldering techniques	40
UEENEED102A	Assemble, set-up and test computing devices	80
UEENEED104A	Use engineering applications software on personal computers	40
UEENEED112A	Support computer hardware and software for engineering applications	120
UEENEED129A	Develop web pages for engineering applications	40
UEENEED130A	Select, install, configure and test multimedia components	40
UEENEED143A	Install and configure a client computer operating system and software	40
UEENEED146A	Set up and configure basic local area network (LAN)	80
UEENEED153A	Set up, configure and test biometric devices	40
UEENEEE102A	Fabricate, assemble and dismantle utilities industry components	40
UEENEEE104A	Solve problems in d.c. circuits	80
UEENEEE105A	Fix and secure electrotechnology equipment	20
UEENEEE107A	Use drawings, diagrams, schedules, standards, codes and specifications	40
UEENEEE108A	Lay wiring/cabling and terminate accessories for extra-low voltage (ELV) circuits	40
UEENEEE119A	Solve problems in multiple path extra low voltage (ELV) a.c. circuits	40
UEENEEE123A	Solve basic problems electronic and digital	80

	equipment and circuits	
UEENEEE179A	Identify and select components, accessories and materials for energy sector work activities	20
UEENEEF102A	Install and maintain cabling for multiple access to telecommunication services	120
UEENEEF104A	Install and modify performance data communication copper cabling	40
UEENEEF105A	Install and modify optical fibre performance data communication cabling	40
UEENEEF107A	Set up and configure the wireless capabilities of communications and data storage devices	40
UEENEEF108A	Select and arrange equipment for wireless communication networks	40
UEENEEF109A	Install and connect data and voice communication equipment	40
UEENEEF110A	Select and arrange data and voice equipment for local area networks	40
UEENEEH101A	Repair basic computer equipment faults by replacement of modules/sub-assemblies	40
UEENEEH102A	Repairs basic electronic apparatus faults by replacement of components	40
UEENEEH103A	Repair routine business equipment faults	120
UEENEEH111A	Troubleshoot single phase input d.c. power supplies	40
UEENEEH112A	Troubleshoot digital sub-systems	80
UEENEEH113A	Troubleshoot amplifiers in an electronic apparatus	80
UEENEEH114A	Troubleshoot resonance circuits in an electronic apparatus	80
UEENEEH115A	Develop software solutions for microcontroller based systems	60
UEENEEH139A	Troubleshoot basic amplifier circuits	40
UEENEEH150A	Assemble and set up basic security systems	80

UEENEEH151A	Install large security systems	100
UEENEEH152A	Enter instructions and test wired and wireless security systems	40
UEENEEH166A	Troubleshoot microcontroller based hardware systems	40
UEENEEH169A	Solve problems in basic electronic circuits	100
UEENEEI101A	Use instrumentation drawings, specification, standards and equipment manuals	40
UEENEEI116A	Assemble, enter and verify operating instructions in microprocessor equipped devices	20

Group C – Qualification Elective Units You may complete units to a maximum weighting of 280		**Weighting Points**
UEENEEC004B	Prepare specifications for the supply of materials and equipment for electrotechnology projects	40
UEENEEC005B	Estimate electrotechnology projects	40
UEENEED103A	Evaluate and modify object oriented code programs	40
UEENEED110A	Set up, create and implement content for a web server	120
UEENEED113A	Install and administer Unix based networked computers	80
UEENEED115A	Administer computer networks	80
UEENEED116A	Develop computer network services	120
UEENEED117A	Install and configure network systems for internetworking	120
UEENEED124A	Integrate multiple computer operating systems on a client server local area network	80
UEENEED154A	Analyse and implement biometric measuring techniques and applications	120
UEENEEE110A	Develop and implement energy sector maintenance programs	60

UEENEEE114A	Supervise and coordinate energy sector work activities	40
UEENEEE124A	Compile and produce an energy sector detailed report	60
UEENEEI124A	Fault find and repair analogue circuits and components in electronic control systems	60
UEENEEI155A	Develop structured programs to control external devices	40
UEENEEI157A	Configure and maintain industrial control system networks	60
UEENEEK145A	Implement and monitor energy sector environmental and sustainable energy policies and procedures	20

Group D – Qualification Elective Units You may complete units to a maximum weighting of 280		**Weighting Points**
UEENEEC006B	Prepare tender submissions for electrotechnology projects	60
UEENEED111A	Develop, implement and test object oriented code	140
UEENEED118A	Design and implement network systems for internetworking	120
UEENEED150A	Develop industrial control programs for microcomputer equipped devices	60
UEENEED151A	Provide programming solution for computer systems engineering problems	60
UEENEEE070B	Write specifications for computer systems engineering projects	40
UEENEEE125A	Provide engineering solutions for problems in complex multiple path circuits	60
UEENEEE126A	Provide solutions to basic engineering computational problems	60
UEENEED147A	Develop energy sector directory services	80
UEENEEH145A	Develop engineering solutions to analogue electronic problems	80

Group D – Qualification Elective Units You may complete units to a maximum weighting of 280		**Weighting Points**
UEENEEH148A	Design and develop advanced digital systems	40
UEENEEH157A	Develop basic plans for integrating security systems	40
UEENEEH181A	Design electronic printed circuit boards	40
UEENEEH183A	Analyse the performance of wireless-based electronic - communication systems	40
UEENEEI153A	Design and configure Human-Machine Interface (HMI) networks	60
UEENEEI156A	Develop and test code for microcontroller devices	60

Group E – Qualification Elective Units You must complete units to a minimum weighting of 420 to a maximum of 1600		**Weighting Points**
UEENEEC007B	Manage contract variations	40
UEENEED114A	Design and manage enterprise computer networks	80
UEENEED119A	Design and implement advanced routing for internetworking systems	100
UEENEED120A	Design and implement remote access for Internetworking systems	100
UEENEED121A	Design and implement multi-layer switching for Internetworking systems	100
UEENEED122A	Design and implement security for Internetworking systems	100
UEENEED123A	Design and implement wireless LANs/WANs for internetworking systems	100
UEENEED148A	Plan industrial computer systems projects	60
UEENEED152A	Design embedded controller control systems	80
UEENEED155A	Develop and validate biometric equipment/systems installation	120

Group E – Qualification Elective Units You must complete units to a minimum weighting of 420 to a maximum of 1600		**Weighting Points**
UEENEEE011C	Manage risk in electrotechnology activities	60
UEENEEE081A	Apply material science to solving electrotechnology engineering problems	60
UEENEEE082A	Apply physics to solving electrotechnology engineering problems	60
UEENEEE127A	Use advanced computational processes to provide solutions to energy sector engineering problems	80
UEENEEE128A	Develop engineering solutions to photonic system problems	80
UEENEEE129A	Solve electrotechnical engineering problems	60
UEENEED149A	Develop energy sector computer network applications infrastructure	80
UEENEEH184A	Modify digital signal processing (DSP) based sub-systems	80
UEENEEH185A	Design signal-conditioning subsystems	80
UEENEEH189A	Provide Gate Array solutions for complex electronics systems	60
UEENEEI154A	Design and use advanced programming tools PC networks and HMI interfacing	120

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

Custom Content Section

Not applicable.