Australian Government

UEE61211 Advanced Diploma of Engineering - Explosion protection

Release 4

INDUSTRY SKILLS COUNCILS
Creating Australia's Future

UEE61211 Advanced Diploma of Engineering - Explosion protection

Modification History

Release	Action	Core/Elective	Details	Points
2	Edit		Edit Name to reflect correct Unit title UEENEED104A Use engineering applications software on personal computers	40
4	Edit	Core	Correct title of UEENEEM080A - Report on the integrity of explosion-protected equipment in a hazardous area	20
4	Edit	Elective	Correct title of UEENEEE127A - Use advanced computational processes to provide solutions to energy sector engineering problems	80
4	Edit	Elective	Correct title of UEENEEE161A - Analyse static and dynamic parameters of electrical equipment	80
4	Edit	Elective	Correct title of UEENEEE162A - Select drive components for electrical equipment design	80
4	Edit	Elective	Correct title of UEENEEE163A - Analyse materials for suitability in electrical equipment	80
4	Edit	Elective	Correct title of UEENEEG131A - Evaluate performance of low voltage electrical apparatus	40
4	Edit	Elective	Correct title of UEENEEG143A - Develop engineering solution for synchronous machine and control problems	60
4	Edit	Elective	Correct title of UEENEEG144A - Develop engineering solutions for d.c. machine and control problems	60
4	Edit	Elective	Correct title of UEENEEG145A - Develop engineering solutions for induction machine and control problems	60
4	Edit	Elective	Correct title of UEENEEG161A - Design and	60

			develop modifications to LV electrical machines	
4	Edit	Elective	Correct title of UEENEEM039A - Conduct testing of hazardous areas installations - gas atmospheres	40
4	Edit	Elective	Correct title of UEENEEM079A - Design of gas detection systems	20

Description

Scope

This qualification provides competencies to assess and manage risk associated with hazardous areas, design and validate/evaluate explosion protection aspects of electrical and instrument systems, audit explosion-protected installations and provide explosion protection 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 380 points in accordance with the Elective Competency Standard Units table below.

Note:
UEENEEG105A - Those holding an 'Unrestricted Electricians Licence or equivalent issued in an Australian State or Territory meets the requirements of this unit and its pre-requisite requirements.

Core Competency Standard Units All Core competency standard units to be achieved		**Weighting Points**
UEENEED104A	Use engineering applications software on personal computers	40
UEENEEE006B	Apply methods to maintain currency of industry developments	20
UEENEEE011C	Manage risk in electrotechnology activities	60
UEENEEE015B	Develop design briefs for electrotechnology projects	40
UEENEEE071B	Write specifications for electrical engineering projects	40
UEENEEE080A	Apply industry and community standards to engineering activities	20
UEENEEE081A	Apply material science to solving electrotechnology engineering problems	60
UEENEEE082A	Apply physics to solving electrotechnology engineering problems	60
UEENEEE083A	Establish and follow a competency development plan in an electrotechnology engineering discipline	120
UEENEEE101A	Apply Occupational Health and Safety regulations, codes and practices in the workplace	20
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
UEENEEE117A	Implement and monitor energy sector OHS policies and procedures	20
UEENEEE124A	Compile and produce an energy sector detailed report	60
UEENEEE125A	Provide engineering solutions for problems in complex multiple path circuits	60
UEENEEE126A	Provide solutions to basic engineering computational problems	60
UEENEEE137A	Document and apply measures to control OHS risks associated with electrotechnology work	20
UEENEEG006A	Solve problems in single and three phase low voltage machines	80
UEENEEG033A	Solve problems in single and three phase low voltage electrical apparatus and circuits	60
UEENEEG063A	Arrange circuits, control and protection for general electrical installations	40
UEENEEG101A	Solve problems in electromagnetic devices and related circuits	60
UEENEEG102A	Solve problems in low voltage a.c. circuits	80
UEENEEG103A	Install low voltage wiring and accessories	20
UEENEEG104A	Install appliances, switchgear and associated accessories for low voltage electrical installations	20
UEENEEG105A	Verify compliance and functionality of low voltage general electrical installations	40
UEENEEG106A	Terminate cables, cords and accessories for low voltage circuits	40
UEENEEG107A	Select wiring systems and cables for low voltage general electrical installations	60

UEENEEG108A	Trouble-shoot and repair faults in low voltage electrical apparatus and circuits	40
UEENEEG109A	Develop and connect electrical control circuits	80
UEENEEG149A	Provide engineering solutions to problems in complex polyphase power circuits	60
UEENEEG169A	Manage large electrical projects	40
UEENEEG170A	Plan large electrical projects	60
UEENEEK132A	Develop strategies to address environmental and sustainability issues in the energy sector	20
UEENEEM052A	Classify hazardous areas — gas atmospheres	40
UEENEEM053A	Classify hazardous areas — dust atmospheres	40
UEENEEM080A	Report on the integrity of explosion-protected equipment in a hazardous area	20
Total points in core		**1780**

Elective Competency Standard Units

Complete Elective units to achieve a total of weighting of 380 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	170
B	**Qualification Elective Units**	0	60
C	**Qualification Elective Units**	0	80
D	**Qualification Elective Units**	0	60

Elective Competency Standard Units Complete Elective units to achieve a total of weighting of 380 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	170
E	**Qualification Elective Units** You may select all your elective units from this Group	160	380

Group A – Imported and Common Elective Units You may complete units to a maximum weighting of 170		**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
PMASUP410B	Develop plant documentation	30
	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	Up to 170 points

	Training Package, Version 1, Volume 1 Qualification Framework	

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Group B – Qualification Elective Units You may complete units to a maximum weighting of 60		**Weighting Points**
UEENEEM019A	Attend to breakdowns in hazardous areas — coal mining	20
UEENEEM020A	Attend to breakdowns in hazardous areas — gas atmospheres	20
UEENEEM021A	Attend to breakdowns in hazardous areas — dust atmospheres	20
UEENEEM022A	Attend to breakdowns in hazardous areas — pressurisation	20
UEENEEM023A	Install explosion-protected equipment and wiring systems — coal mining	60
UEENEEM024A	Install explosion-protected equipment and wiring systems — gas atmospheres	60
UEENEEM025A	Install explosion-protected equipment and wiring systems — dust atmospheres	60
UEENEEM026A	Install explosion-protected equipment and wiring systems — pressurisation	60
UEENEEM027A	Maintain equipment in hazardous areas — coal mining	60
UEENEEM028A	Maintain equipment in hazardous areas — gas atmospheres	60
UEENEEM029A	Maintain equipment in hazardous areas — dust atmospheres	60
UEENEEM030A	Maintain equipment in hazardous areas — pressurisation	60
UEENEEM038A	Conduct testing of hazardous areas installations — coal mining	40

Group C – Qualification Elective Units You may complete units to a maximum weighting of 80	**Weighting Points**

UEENEEC005B	Estimate electrotechnology projects	40
UEENEEM039A	Conduct testing of hazardous areas installations - gas atmospheres	40
UEENEEM042A	Conduct visual inspection of hazardous areas installations	40
UEENEEM044A	Conduct detailed inspection of hazardous areas installations — gas atmospheres	40
UEENEEM047A	Develop and manage maintenance programs for hazardous areas electrical equipment — coal mining	20
UEENEEM078A	Manage compliance of hazardous areas	20

Group D – Qualification Elective Units You may complete units to a maximum weighting of 60		**Weighting Points**
UEENEEC006B	Prepare tender submissions for electrotechnology projects	60
UEENEEE110A	Develop and implement energy sector maintenance programs	60
UEENEEG131A	Evaluate performance of low voltage electrical apparatus	40
UEENEEG180A	Develop detailed and complex drawings for electrical systems using CAD systems	60
UEENEEM035A	Conduct a conformity assessment of explosion-protected equipment — coal mining	40
UEENEEM036A	Conduct a conformity assessment of explosion-protected equipment — gas atmospheres	40
UEENEEM037A	Conduct a conformity assessment of explosion-protected equipment — dust atmospheres	40
UEENEEM054A	Plan electrical installations for hazardous areas — gas atmospheres	20
UEENEEM064A	Conduct audit of hazardous areas installations — coal mining	60
UEENEEM065A	Conduct audit of hazardous areas installations — gas atmospheres	60
UEENEEM066A	Conduct audit of hazardous areas installations — dust	60

	atmospheres	
UEENEEM067A	Assess the fitness-for-purpose of hazardous areas explosion-protected equipment — coal mining	60
UEENEEM068A	Assess the fitness-for-purpose of hazardous areas explosion-protected equipment — gas atmospheres	60
UEENEEM069A	Assess the fitness-for-purpose of hazardous areas explosion-protected equipment — dust atmospheres	60

Group E – Qualification Elective Units You must complete units to a minimum weighting of 160 You may select all your elective units from this Group		**Weighting Points**
UEENEEC007B	Manage contract variations	40
UEENEEE127A	Use advanced computational processes to provide solutions to energy sector engineering problems	80
UEENEEE160A	Provide engineering solutions for uses of materials and thermodynamic effects	80
UEENEEE161A	Analyse static and dynamic parameters of electrical equipment	80
UEENEEE162A	Select drive components for electrical equipment design	80
UEENEEE163A	Analyse materials for suitability in electrical equipment	80
UEENEEE164A	Design electrical machine drives and production layout plans	80
UEENEEE078B	Contribute to risk management in electrotechnology systems	20
UEENEEG143A	Develop engineering solution for synchronous machine and control problems	60
UEENEEG144A	Develop engineering solutions for d.c. machine and control problems	60
UEENEEG145A	Develop engineering solutions for induction machine and control problems	60
UEENEEG160A	Evaluate performance of LV electrical machines	40

UEENEEG161A	Design and develop modifications to LV electrical machines	60
UEENEEM057A	Design explosion-protected electrical systems and installations — gas atmospheres	20
UEENEEM058A	Design explosion-protected electrical systems and installations — dust atmospheres	20
UEENEEM059A	Design explosion-protected electrical systems and installations — pressurisation	20
UEENEEM075A	Design explosion-protected electrical systems — Coal mining	20
UEENEEM079A	Design of gas detection systems	20

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.