Australian Government

UEE62411 Advanced Diploma of Engineering Technology - Air-conditioning and Refrigeration

Release 5

INDUSTRY SKILLS COUNCILS
Creating Australia's Future

UEE62411 Advanced Diploma of Engineering Technology - Air-conditioning and Refrigeration

Modification History

Release	Action	Core/Elective	Details	Points
3	Add	Group A	CPPBDN5013A Develop and collaborate on building information models for small-scale building design projects	100
3	Add	Group D	UEENEEE150A Undertake computations in an energy sector environment	120
3	Add	Group D	UEENEEE129A Solve electrotechnical engineering problems	60
3	Add	Group D	UEENEEK151A Develop effective engineering strategies for energy reduction in buildings	60
3	Edit		Edit Name to reflect correct Unit title UEENEED104A Use engineering applications software on personal computers	40

5	Edit	Core	Correct title of UEENEEJ129A Establish heat loads for commercial refrigeration and/or air conditioning applications	80
5	Edit	Elective	Correct title of UEENEEK145A Implement and monitor energy sector environmental and sustainable policies and procedures	20

Description

Scope
This qualification provides competencies to design and validate/evaluate refrigeration and air conditioning equipment and systems 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 800 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**
UEENEED104A	Use engineering applications software on personal computers	40
UEENEEE080A	Apply industry and community standards to engineering activities	20
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
UEENEEE107A	Use drawings, diagrams, schedules, standards, codes and specifications	40
UEENEEE124A	Compile and produce an energy sector detailed report	60
UEENEEE126A	Provide solutions to basic engineering computational problems	60
UEENEEE127A	Use advanced computational processes to provide solutions to energy sector engineering problems	80
UEENEEE129A	Solve electrotechnical engineering problems	60
UEENEEE137A	Document and apply measures to control OHS risks associated with electrotechnology work	20
UEENEEE146A	Identify effects of energy on machinery and materials in an energy sector environment	120

Core Competency Standard Units All Core competency standard units to be achieved		**Weighting Points**
UEENEEJ069B	Plan refrigeration and air conditioning projects	60
UEENEEJ127A	Establish the thermodynamic parameters of refrigeration and air conditioning systems	80
UEENEEJ128A	Produce HVAC/R system design drawings	80
UEENEEJ129A	Establish heat loads for commercial refrigeration and/or air conditioning applications	80
UEENEEJ138A	Analyse vibration and noise in refrigeration and air conditioning systems	80
UEENEEJ164A	Analyse the operation of HVAC air and hydronic systems	80
UEENEEJ165A	Evaluate thermodynamic and fluid parameters of refrigeration systems	100
UEENEEJ192A	Analyse the psychrometric performance of HVAC/R systems	50
UEENEEJ193A	Analyse the thermodynamic performance of HVAC/R systems	50
UEENEEK132A	Develop strategies to address environmental and sustainability issues in the energy sector	20
Total points in core		**1360**

Elective Competency Standard Units Complete Elective units to achieve a total of weighting of 800 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	0	350

	Industry Technical Advisory Committee, their weighting will be 10 points.		
B	**Qualification Elective Units**	0	100
C	**Qualification Elective Units**	120	320
D	**Qualification Elective Units**	200	360
E	**Qualification Elective Units**	360	480

Group A – Imported and Common Electives Units You may complete units to a maximum weighting of 350		**Weighting Points**
UEENEEC001B	Maintain documentation	20
UEENEEC002B	Source and purchase material/parts for installation or service jobs	20
UEENEEC003B	Provide quotations for installation or service jobs	20
UEENEEC010B	Deliver a service to customers	20
UEENEED101A	Use computer applications relevant to a workplace	20
UEENEEE020B	Provide basic instruction in the use of electrotechnology apparatus	20
BSBINM501A	Manage an information or knowledge management system	50
BSBINN502A	Build and sustain an innovative work environment	50
CPPBDN5013A	Develop and collaborate on building information models for small-scale building design projects	100
	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	Up to 350 points

	Qualification Framework	

Group B – Qualification Elective Units You may complete units to a maximum weighting of 100		**Weighting Points**
UEENEEJ103A	Establish the basic operating conditions of vapour compression systems	60
UEENEEJ110A	Select refrigerant piping, accessories and associated controls	50
UEENEEJ174A	Apply safety awareness and legal requirements for hydrocarbon refrigerants	10
UEENEEJ178A	Apply safety awareness and legal requirements for ammonia refrigerant	10
UEENEEJ184A	Apply safety awareness and legal requirements for Carbon Dioxide refrigerant	10

Group C – Qualification Elective Units You must complete units to a minimum weighting of 120 to a maximum of 320		**Weighting Points**
UEENEEC005B	Estimate electrotechnology projects	40
UEENEEJ130A	Produce HVAC/R control system diagrams	40
UEENEEJ190A	Select basic commercial refrigeration system equipment, components and accessories	40
UEENEEJ191A	Select residential air conditioning system equipment, components and accessories	40
UEENEEK145A	Implement and monitor energy sector environmental and sustainable policies and procedures	20

Group D – Qualification Elective Units You must complete units to a minimum weighting of 200 to a maximum of 360		**Weighting Points**
UEENEEC006B	Prepare tender submissions for electrotechnology projects	60
UEENEEE150A	Undertake computations in an energy sector environment	120
UEENEEJ132A	Design commercial refrigeration systems and select components	80
UEENEEJ133A	Design industrial refrigeration systems and select components	60
UEENEEJ134A	Design heating, ventilation and air conditioning (HVAC) systems and select components	60
UEENEEJ135A	Design control systems for refrigeration or heating, ventilation and air conditioning systems	80
UEENEEJ136A	Evaluate and report on building services energy management systems	80
UEENEEJ137A	Evaluate and report on the indoor air quality of buildings	40
UEENEEJ177A	Design hydrocarbon refrigerated systems	40
UEENEEJ181A	Design ammonia refrigerated systems	40
UEENEEJ183A	Design secondary refrigerant systems	40
UEENEEJ187A	Design carbon dioxide refrigerated systems	40
UEENEEK151A	Develop effective engineering strategies for energy reduction in buildings	60

Group E – Qualification Elective Units You must complete units to a minimum weighting of 360 to a maximum of 480		**Weighting Points**
UEENEEC007B	Manage contract variations	40
UEENEEJ139A	Develop specifications and prepare drawings for	60

	HVAC/Refrigeration projects	
UEENEEJ141A	Design complex commercial refrigeration systems and select equipment	40
UEENEEJ142A	Design complex industrial refrigeration systems and select equipment	40
UEENEEJ143A	Design complex air conditioning systems and select equipment	120
UEENEEJ144A	Design mechanical ventilation/exhaust systems and select equipment	40
UEENEEJ145A	Design hydronic systems and select equipment	80
UEENEEJ146A	Design complex control systems for refrigeration or heating, ventilation, air conditioning systems	80
UEENEEJ149A	Develop heat exchanger design specifications	80
UEENEEJ150A	Evaluate new and alternative technologies applicable to electrotechnology applications	40

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