



Australian Government

UEE51111 Diploma of Engineering Technology - Refrigeration and Air-conditioning

Release: 3

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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	UEENEEE129A Solve electrotechnical engineering problems	60
3	Add	Group D	UEENEEK151A Develop effective engineering strategies for energy reduction in buildings	60
3	Add	Group D	UEENEEE150A Undertake computations in an energy sector environment	120
3	Edit		Edit Name to reflect correct Unit title UEENEEED104A Use engineering applications software on personal computers	40
3	Update	Group A	HLTCPR211A Perform CPR Perform CPR	10

Description

Scope

This qualification provides enabling competencies to develop systems and select equipment for heating, ventilation, air conditioning and/or refrigeration systems.

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 680 points in accordance with the Elective Competency Standard Units table below.

Core Competency Standard Units		Weighting Points
All Core competency standard units to be achieved		
UEENEEE038B	Participate in development and follow a personal competency development plan	20
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
UEENEEE137A	Document and apply measures to control OHS risks associated with electrotechnology work	20
UEENEEE147A	Identify building techniques, methods and materials used in energy sector work activities	40
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
UEENEEJ131A	Determine noise and vibration encountered in HVAC/R applications	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		920

Elective Competency Standard Units

Complete Elective units to achieve a total of weighting of 680 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 5. If units have not been assigned a weighting by the relevant EE-Oz Industry Technical Advisory Committee, their weighting will be 10 points.	0	270
B	Qualification Elective Units	0	100
C	Qualification Elective Units	60	170
D	Qualification Elective Units	270	620

Group A – Imported and Common Electives Units		Weighting Points
You may complete units to a maximum weighting of 270		
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
CPCCOHS1001A	Work safely in the construction industry	10
CPPBDN5013A	Develop and collaborate on building information models for small-scale building design projects	100
HLTCPR211A	Perform CPR	10
MEM16006A	Organise and communicate information	20
MEM16008A	Interact with computing technology	20
MEM30001A	Use computer aided drafting systems to produce basic engineering drawings	40
MEM30002A	Produce basic engineering graphics	40
MEM30003A	Produce detailed engineering drawings	80
MEM30004A	Use CAD to create and display 3D models	40
	<p>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 5. If units have not being assigned a weighting by the relevant EE-Oz Industry Technical Advisory Committee, their weighting will be 10 points.</p> <p>Note: For further information see Application of the NQC Flexibility Formula, UEE11 Electrotechnology Training Package, Version 1, Volume 1 Qualification Framework</p>	Up to 270 points

Group B – Qualification Elective Units		Weighting Points
You may complete units to a maximum weighting of 100		
UEENEED104A	Use engineering applications software on personal computers	40
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		Weighting Points
Complete units to a minimum weighting of 60 and a maximum weighting of 170		
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
UEENEK145A	Implement and monitor energy sector environmental and sustainable energy policies and procedures	20

Group D – Qualification Elective Units		Weighting Points
You must complete units to a minimum weighting of 270 and a maximum weighting of 620		
UEENEEC006B	Prepare tender submissions for electrotechnology projects	60
UEENEEE129A	Solve electrotechnical engineering problems	60
UEENEEJ132A	Design commercial refrigeration systems and select components	80
UEENEEJ133A	Design industrial refrigeration systems and select components	80
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
UEENEEE150A	Undertake computations in an energy sector environment	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