



**Australian Government**

# **MEM31319 Certificate III in Refrigeration and Air Conditioning**

**Release 2**

# **MEM31319 Certificate III in Refrigeration and Air Conditioning**

## **Modification History**

Release 2. Mandatory training contract pathway added.

Release 1. New qualification. Supersedes but is not equivalent to MEM30205 Certificate III in Engineering – Mechanical Trade.

## **Qualification Description**

This qualification defines the skills and knowledge required of a heating, ventilation, air conditioning and refrigeration (HVAC/R) tradesperson within metal, engineering, manufacturing and associated industries. The qualification has been specifically developed for apprentices in the above trade.

This qualification must be undertaken through a Training Contract or through formal trade recognition assessment processes.

The skills associated with this qualification are intended to apply to a wide range HVAC/R work, including assembling, installing, maintaining and repairing industrial, commercial and domestic air conditioning and refrigeration systems and equipment.

This qualification is designed to provide an industry recognised skills profile related to trade work as a refrigeration and air conditioning tradesperson.

Assessment of some units of competency must, where indicated, include evidence of the candidate's performance in a functioning workplace where there is a sufficient range of appropriate tasks and materials to cover the scope of application of those units. All outcomes must reflect the standard of performance inherent in the job.

The Ozone Protection and Synthetic Greenhouse Gas Legislation Amendment Bill 2003 and the Ozone Protection and Synthetic Gas Management Regulations 1995 apply to this qualification which incorporates national refrigerant handling licences and refrigerant trading authorisations. Refer to the Australian Refrigeration Council website for required units of competency to meet the refrigerant handling licence requirements. Licensing and regulatory information is included in the relevant units of competence.

## **Entry Requirements**

There are no entry requirements for this qualification.

## **Packaging Rules**

To be awarded the MEM31319 Certificate III in Refrigeration and Air Conditioning, units of competency to the value of 96 points must be achieved, chosen as outlined below:

- all core units of competency listed below (totalling 33 points)
- elective units of competency to a minimum value of 40 points from Group A

- elective units of competency to a maximum value of 23 points from Group B to bring the total value to 96 points.

Appropriate Group B elective units to the value of 8 points may be chosen from this Training Package, other endorsed Training Packages and accredited courses where those units are available for inclusion at Certificate III. Only select units that would be suitable for occupational outcomes in a refrigeration and/or air conditioning trade environment.

Registered Training Organisations (RTOs) must seek a determination from the industry parties in respect of the allocation of points values for units of competency drawn from other Training Packages or accredited courses. Determination of points requests are to be submitted to the industry parties through Innovation and Business Skills Australia (IBSA) Manufacturing. Refer to the MEM Companion Volume Implementation Guide for information on determination of unit points values.

### Prerequisites

Points associated with prerequisites count towards the total. Units with prerequisite requirements are marked with an asterisk (refer to the individual units for details). All prerequisites are included in the units listed.

### Core units of competency

Unit code	Unit title	P	Pre req
MEM09002	Interpret technical drawing	4	*
MEM11011	Undertake manual handling	2	*
MEM12023	Perform engineering measurements	5	*
MEM12024	Perform computations	3	*
MEM13015	Work safely and effectively in manufacturing and engineering	2	
MEM14006	Plan work activities	4	*
MEM16006	Organise and communicate information	2	*
MEM16008	Interact with computing technology	2	*
MEM17003	Assist in the provision of on-the-job training	2	*
MEM18001	Use hand tools	2	*
MEM18002	Use power tools/hand held operations	2	*
MSMENV272	Participate in environmentally sustainable work practices	3	

## Elective units of competency

## Group A

Unit code	Unit title	P	Pre req
MEM05003	Perform soft soldering	2	*
MEM05006	Perform brazing and/or silver soldering	2	*
MEM10002	Terminate and connect electrical wiring	3	*
MEM10009	Install refrigeration and air conditioning plant and equipment	4	*
MEM10010	Install pipework and pipework assemblies	4	*
MEM10013	Install split air conditioning systems and associated pipework	6	*
MEM12002	Perform electrical/electronic measurement	2	*
MEM13003	Work safely with industrial chemicals and materials	2	*
MEM18046	Fault find and repair electrical equipment/components up to 1000 volts a.c./1500 volts d.c	10	*
MEM18048	Fault find and repair/rectify basic electrical circuits	12	*
MEM18049	Disconnect/reconnect fixed wired equipment up to 1000 volts a.c./1500 volts d.c.	3	*
MEM18055	Dismantle, replace and assemble engineering components	3	*
MEM18083	Handle fluorocarbon refrigerants according to regulations	1	*
MEM18084	Commission and decommission split air conditioning systems	4	*
MEM18085	Install, service and repair domestic air conditioning and refrigeration appliances	6	*
MEM18086	Test, recover, evacuate and charge refrigeration systems	4	*
MEM18087	Service and repair domestic and light commercial refrigeration and air conditioning equipment	6	*
MEM18088	Maintain and repair commercial air conditioning systems and components	4	*
MEM18094	Service and repair commercial refrigeration	6	*

Unit code	Unit title	P	Pre req
MEM18096	Maintain, repair/replace and adjust refrigerant flow controls and associated equipment	6	*

## Group B

Unit code	Unit title	P	Pre req
MEM05001	Perform manual soldering/desoldering - electrical/electronic components	4	*
MEM05005	Carry out mechanical cutting	2	*
MEM05012	Perform routine manual metal arc welding	2	*
MEM05050	Perform routine gas metal arc welding	2	*
MEM07001	Perform operational maintenance of machines/equipment	2	*
MEM07024	Operate and monitor machine and process	4	*
MEM07032	Use workshop machines for basic operations	2	*
MEM09003	Prepare basic engineering drawing	8	*
MEM09011	Apply basic engineering design concepts	6	*
MEM10003	Install and test electrical wiring and circuits up to 1000 volts a.c. and 1500 volts d.c.	12	*
MEM10004	Enter and change programmable controller operational parameters	2	*
MEM10005	Commission programmable controller programs	4	*
MEM10011	Terminate and connect specialist cables	3	*
MEM11001	Erect/dismantle scaffolding and equipment	4	*
MEM11005	Pick and process order	4	*
MEM11009	Handle/move bulk fluids/gases	4	*
MEM11010	Operate mobile load shifting equipment	4	*
MEM11016	Order materials	2	*

Unit code	Unit title	P	Pre req
MEM11022	Operate fixed/moveable load shifting equipment	4	*
MEM12004	Perform precision electrical/electronic measurement	4	*
MEM13001	Perform emergency first aid	1	*
MEM13002	Undertake work health and safety activities in the workplace	3	*
MEM13007	Maintain water treatment systems for cooling towers	2	*
MEM15001	Perform basic statistical quality control	2	*
MEM15004	Perform inspection	2	*
MEM16004	Perform internal/external customer service	2	*
MEM16005	Operate as a team member to conduct manufacturing, engineering or related activities	2	*
MEM16013	Operate in a self-directed team	2	*
MEM18003	Use tools for precision work	4	*
MEM18006	Perform precision fitting of engineering components	6	*
MEM18009	Perform precision levelling and alignment of machines and engineering components	4	*
MEM18011	Shut down and isolate machines/equipment	2	*
MEM18045	Fault find and repair electrical equipment/components up to 250 volts single phase supply	4	*
MEM18050	Disconnect/reconnect fixed wired equipment over 1000 volts a.c./1500 volts d.c.	3	*
MEM18051	Fault find and repair/rectify complex electrical circuits	6	*
MEM18089	Maintain and repair central air handling systems	6	*
MEM18090	Maintain and repair industrial refrigeration systems and components	6	*
MEM18091	Maintain and repair multistage, cascade and/or ultra-cold industrial refrigeration systems	4	*
MEM18092	Maintain and repair commercial and/or industrial refrigeration and/or	6	*

Unit code	Unit title	P	Pre req
	air conditioning controls		
MEM18093	Maintain and repair integrated industrial refrigeration and/or large air handling system controls	8	*
MEM18095	Maintain and repair cooling towers/evaporative condensers and associated equipment	4	*

## Qualification Mapping Information

Release 2. Supersedes and is equivalent to MEM31319 Certificate III in Refrigeration and Air Conditioning (Release 1).

Release 1. New qualification. Supersedes but is not equivalent to MEM30205 Certificate III in Engineering – Mechanical Trade.

## Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b7050d37-5fd0-4740-8f7d-3b7a49c10bb2>