



**Australian Government**

# **MEM31215 Certificate III in Engineering - Industrial Electrician**

**Release 2**

# **MEM31215 Certificate III in Engineering - Industrial Electrician**

## **Modification History**

Release 2. MSAENV272B updated to MSMENV272. Equivalent  
Release 1. New qualification

## **Qualification Description**

This qualification provides competencies in the ability to select, set up and install, test, fault-find, repair and maintain electrical systems and equipment in buildings and industrial environments, including oil/gas installations, mine sites, processing plants and the like. The qualification covers the Essential Performance Capabilities as required by electrical regulators and includes a capstone assessment.

Persons engaged in training towards this qualification must provide evidence of workplace experience to assist assessment against the units of competency and for any license application.

This qualification is designed to support an application in each state and territory for a license to practise as an electrician. Other supporting documentation may be required. Local regulations should be checked for details.

## **Entry Requirements**

There are no entry requirements for this qualification.

## Packaging Rules

To be awarded the MEM31215 Certificate III in Engineering – Industrial Electrician between 33 and 38 units of competency to a minimum value of 96 points must be achieved, chosen as outlined below:

- all 32 core units of competency listed below (totalling 90 points) and
- elective units of competency to the value of 6 points, to bring the total value to at least 96 points.

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

### Core units of competency

Select all of the units from this list.

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Unit code	Unit title	Points	*P
MEM10016	Terminate and test electrical wiring and accessories	4	*
MEM10018	Select cable types and sizes to suit loads and electrical installation environment	4	
MEM10019	Select circuit protection devices by type and rating, fit to switchboards and install earthing	2	*
MEM10020	Install low voltage cabling and fit off accessories, appliances and equipment	4	*
MEM10021	Inspect, test and verify electrical installations	4	*
MEM10022	Commission and decommission high and low voltage equipment or installations	2	
MEM10023	Design and connect control switching of circuits for building services and industrial equipment	4	*
MEM10024	Install and troubleshoot luminaires and ancillary equipment	2	*
MEM10025	Undertake a capstone assessment	1	*
MEM12023A	Perform engineering measurements	5	
MEM12024A	Perform computations	3	
MEM13014A	Apply principles of occupational health and safety in the work environment	0	
MEM13017	Apply safety practices, procedures and compliance standards associated with licensed electrical work	2	*
MEM14004A	Plan to undertake a routine task	0	
MEM14005A	Plan a complete activity	4	
MEM15002A	Apply quality systems	2	
MEM15024A	Apply quality procedures	0	
MEM16006A	Organise and communicate information	2	
MEM16007A	Work with others in a manufacturing, engineering or related environment	0	

MEM16008A	Interact with computing technology	2	
MEM17003A	Assist in the provision of on the job training	2	
MEM18001C	Use hand tools	2	
MEM18100	Fault find, test and rectify AC machines and circuits	4	*
MEM18102	Fault find, test and rectify single and three-phase transformers	4	*
MEM18103	Fault find, test and rectify electrical circuits and equipment	4	*
MEM18104	Dismantle, replace and assemble electrical components and equipment	3	*
MSMENV272	Participate in environmentally sustainable work practices	3	
UEENEEE101A	Apply Occupational Health and Safety regulations, codes and practices in the workplace	2	
UEENEEE104A	Solve problems in d.c. circuits	5	*
UEENEEE107A	Use drawings, diagrams, schedules, standards, codes and specifications	4	*
UEENEEG101A	Solve problems in electromagnetic devices and related circuits	5	*
UEENEEG102A	Solve problems in low voltage a.c. circuits	5	*
	<b>Total for core</b>		

### Elective units of competency

Select units to the value of at least 6 points from the list below or from any MEM Certificate III qualification.

Unit code	Unit title	Points	P*
MEM05001B	Perform manual soldering/desoldering - electrical/electronic components	4	
MEM05012C	Perform routine manual metal arc welding	2	
MEM05050B	Perform routine gas metal arc welding	2	
MEM07032B	Use workshop machines for basic operations	2	*
MEM13016	Work in hazardous areas	2	*
MEM18105	Disconnect and reconnect high voltage fixed wired equipment	3	*
MEM18106	Terminate communication and data cables	4	*
MEM18108	Troubleshoot analog and digital electronic equipment	4	*
MEM18109	Troubleshoot instrumentation systems and equipment	4	*

### Qualification Mapping Information

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### Links

MEM Companion Volume Implementation Guide -  
<http://www.mskills.org.au/training-packages/info/>