



Australian Government

MEM31419 Certificate III in Engineering - Fixed and Mobile Plant Mechanic

Release 1

MEM31419 Certificate III in Engineering - Fixed and Mobile Plant Mechanic

Modification History

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 an Engineering Tradesperson - Mechanical specialising in diesel fitting and plant mechanics within metal, engineering, manufacturing and associated industries. The qualification has been specifically developed for apprentices in the above trade. The qualification packaging has been developed on an assumption that competency will be developed through a combination of on and off-the-job learning strategies such as those delivered through a formal apprenticeship. The qualification may also be achieved through formal skills recognition assessment processes.

The skills associated with this qualification are intended to apply to a wide range of trade work including manufacturing, assembly and commissioning of mobile and stationary plant, servicing, diagnosis and rectification of faults, condition monitoring, and preventative maintenance.

This qualification is designed to provide an industry recognised skills profile related to trade work as a fixed and/or mobile plant mechanic. Skills development should be undertaken through an Australian Apprenticeship arrangement where the mix of on and off-the-job training would be specified in the Training Plan associated with the Contract of Training between the employer and apprentice.

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.

No licensing, legislative or certification requirements apply to this qualification at the time of publication. However, in some jurisdictions units in this qualification may require a license or relate to regulatory 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 MEM31419 Certificate III in Engineering – Fixed and Mobile Plant Mechanic units of competency to a value of 96 points must be achieved, chosen as outlined below:

- all core units of competency listed below (totalling 63 points)
- units to a value of 33 points from Group A electives

Appropriate Group A elective units to the value of 8 points may be chosen from 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 fixed and/or mobile plant mechanic 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

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	*
MEM18055	Dismantle, replace and assemble engineering components	3	*
MEM27006	Diagnose and rectify batteries, low voltage sensors and circuits	8	*

Unit code	Unit title	P	Pre-req
MEM27016	Diagnose and maintain electronic controlling systems on mobile and stationary plant	4	*
MEM27017	Maintain, fault find and rectify hydraulic systems for mobile plant	4	*
MEM27019	Diagnose, repair and replace diesel engines in stationary and mobile plant	5	*
MEM27020	Apply knowledge of large combustion engine operations to service and maintenance tasks	2	*
MEM27023	Diagnose and rectify fieldbus circuits in mobile and stationary plant and equipment	4	*
MSMENV272	Participate in environmentally sustainable work practices	3	

Group A Elective Units

Unit code	Unit title	P	Pre-req
MEM05001	Perform manual soldering/desoldering – electrical/electronic components	4	*
MEM05002	Perform high reliability soldering and desoldering	4	*
MEM05007	Perform manual heating and thermal cutting	2	*
MEM05012	Perform routine manual metal arc welding	2	*
MEM05049	Perform routine gas tungsten arc welding	2	*
MEM05050	Perform routine gas metal arc welding	2	*
MEM07005	Perform general machining	8	*
MEM10002	Terminate and connect electrical wiring	3	*
MEM12002	Perform electrical/electronic measurement	2	*

Unit code	Unit title	P	Pre-req
MEM13001	Perform emergency first aid	1	*
MEM13002	Undertake work health and safety activities in the workplace	3	*
MEM18003	Use tools for precision work	4	*
MEM18005	Perform fault diagnosis, installation and removal of bearings	4	*
MEM18006	Perform precision fitting of engineering components	6	*
MEM18008	Balance equipment	2	*
MEM18009	Perform precision levelling and alignment of machines and engineering components	4	*
MEM18012	Perform installation and removal of mechanical seals	2	*
MEM18013	Perform gland packing	2	*
MEM18018	Maintain pneumatic system components	4	*
MEM18019	Maintain pneumatic systems	4	*
MEM18020	Maintain hydraulic system components	4	*
MEM18021	Maintain hydraulic systems	4	*
MEM18022	Maintain fluid power controls	8	*
MEM18049	Disconnect/reconnect fixed wired equipment up to 1000 volts a.c./1500 volts d.c.	3	*
MEM18050	Disconnect/reconnect fixed wired equipment over 1000 volts a.c./1500 volts d.c.	3	*
MEM27001	Maintain and repair stationary and mobile plant engine cooling systems	2	*
MEM27002	Test and repair compression ignition systems	4	*

Unit code	Unit title	P	Pre-req
MEM27003	Overhaul engine fuel system components	8	*
MEM27004	Maintain and repair engine lubrication systems	2	*
MEM27005	Tune diesel engines	4	*
MEM27007	Diagnose and rectify low voltage starting systems	2	*
MEM27008	Maintain induction, exhaust and emission control systems	4	*
MEM27009	Diagnose and rectify braking systems	6	*
MEM27010	Diagnose and rectify low voltage charging systems	2	*
MEM27011	Maintain track type undercarriage on mobile plant	4	*
MEM27012	Maintain mobile plant suspension systems	4	*
MEM27013	Maintain steering systems	4	*
MEM27014	Diagnose and rectify automatic transmissions	8	*
MEM27015	Diagnose and rectify drive line and final drives	4	*
MEM27021	Maintain, fault find and repair stationary plant gas turbine engines	6	*
MEM27022	Maintain, fault find and repair traction drive mechanics	4	*
MEM27026	Service and repair mobile plant air conditioning systems	4	*
MEM27028	Diagnose and rectify manual transmissions	4	*
MEM27029	Maintain wheels and tyres	2	*
MEM27030	Perform engine bottom-end overhaul	4	*

Unit code	Unit title	P	Pre-req
MEM27031	Perform engine top-end overhaul	8	*
MEM27032	Service combustion engines	2	*
CPPFES2027A	Inspect, test and maintain non-gaseous pre-engineered fire-suppression systems	2	
CPPFES3042A	Install and commission pre-engineered fire-suppression systems	2	
MSMENV472	Implement and monitor environmentally sustainable work practices	4	
TLILIC0003	Licence to operate a forklift truck	0	
TLILIC0002	Licence to operate a vehicle loading crane (capacity 10 metre tonnes and above)	1	

Qualification Mapping Information

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Links

Companion Volume implementation guides are found in VETNet -

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