



Australian Government

MEM80122 Graduate Diploma of Engineering

Release 2

MEM80122 Graduate Diploma of Engineering

Modification History

Release 2. Imported elective units updated. Supersedes and equivalent to MEM80122 Graduate Diploma of Engineering (Release 1).

Release 1. Supersedes and is equivalent to MEM80112 Graduate Diploma of Engineering.

Qualification Description

This qualification defines the skills and knowledge required to undertake high level supervisory technician and technical officer work across a range of discipline areas including mechanical, mechatronics, manufacturing, maintenance, and heating ventilation air-conditioning and refrigeration (HVACR) in manufacturing and engineering. The qualification provides the opportunity to gain advanced theoretical knowledge and technical skills in either a specific discipline area or across a broad field of technical work and learning.

In some jurisdictions, units in this qualification may relate to licensing or regulatory requirements. Licensing and regulatory information is included in the relevant units of competency.

No licensing, legislative or certification requirements apply to this qualification at the time of publication. Local regulations should be checked.

Entry Requirements

Entry requirements for the MEM80122 Graduate Diploma of Engineering are:

- an Advanced Diploma of Engineering or a Diploma of Engineering, or a
- relevant Certificate IV or Certificate III together with significant relevant vocational practice in an engineering related role, or a
- Bachelor Degree; or other higher education qualification, with relevant vocational practice in an engineering related role.
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Packaging Rules

The requirement for achievement of the MEM80122 Graduate Diploma of Engineering is the achievement of competence in seven (7) units of competency made up of:

- all three (3) core units of competency and
- four (4) Group A elective units

A maximum of two (2) Group A elective units, that are relevant to work in a high-level engineering supervisory technician and technical officer environment within metal, engineering, manufacturing and associated industries and do not duplicate skills and knowledge already available in units within this qualification, may be chosen from other Graduate Certificate or Graduate Diploma qualifications in this Training Package or from other endorsed Training Packages and accredited courses.

No other descriptor can be used.

Core units of competency

Unit code	Unit title	Prereq
MEM234002	Integrate engineering technologies	
MEM234035	Maintain and apply technical and engineering skills	
MSMENV672	Develop workplace policy and procedures for environmental sustainability	

Elective units of competency

Unit code	Unit title	Prereq
MEM234001	Plan and manage engineering-related projects or operations	
MEM234003	Design machines and ancillary equipment	
MEM234004	Design for engineering-related noise and vibration mitigation	
MEM234005	Design hydrodynamic pumping systems	
MEM234006	Evaluate and select thermodynamic systems or subsystems	
MEM234007	Design fluid power systems	
MEM234008	Design plant using computer simulations	
MEM234009	Design computer-integrated manufacturing systems	
MEM234010	Design microcontroller applications	
MEM234011	Design programmable logic controller applications	
MEM234012	Design integrated maintenance management systems	
MEM234013	Plan and design engineering-related manufacturing processes	
MEM234014	Design a robotic system	

MEM234015	Design hydronic heat exchanger systems	
MEM234016	Design refrigeration systems	
MEM234017	Design exhaust, ventilation and dust collection systems	
MEM234018	Design heating, ventilation, air conditioning and refrigeration control systems	
MEM234019	Apply finite element analysis in engineering design	
MEM234020	Coordinate small lot manufacture using rapid manufacture processes	
MEM234021	Apply statistics to technology problems	
MEM234022	Apply advanced calculus to technology problems	
MEM234023	Apply differential equations to technology problems	
MEM234024	Apply advanced mathematics to technology problems	
MEM234025	Apply numerical methods to technology problems	
MEM234026	Develop and coordinate engineering-related contingency plans	
MEM234027	Plan and manage materials supply for an engineering project or manufacturing operation	
MEM234028	Produce and manage technical documentation	
MEM234029	Produce and manage technical publications	
MEM234030	Provide specialised technical and engineering guidance to other technical employees	
MEM234031	Manage installation, commissioning or modification of machines and equipment	
MEM234032	Manage fluid power-related technologies in an organisation	
MEM234033	Lead engineering-related quality operations in an organisation	
MEM234034	Manage heating, ventilation, air conditioning and refrigeration systems or projects	
MSL976006	Evaluate and select appropriate test methods and/or procedures	

Qualification Mapping Information

Release 2. Supersedes and equivalent to MEM80122 Graduate Diploma of Engineering (Release 1).

Release 1. Supersedes and is equivalent to MEM80112 Graduate Diploma of Engineering.

Links

Companion Volume implementation guides are found in VETNet -

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