



**Australian Government**

# **MEM50722 Diploma of Engineering - Planning**

**Release 1**

# MEM50722 Diploma of Engineering - Planning

## Modification History

Release 1. New qualification.

## Qualification Description

This qualification provides skills and knowledge in technical planning for manufacturing and engineering operations, including planning, scheduling and organising materials supply, equipment utilisation, logistics, utilities and services for manufacturing and engineering.

Completion of this qualification will enable a person to work in a variety of technical supervisory and managerial roles requiring manufacturing and engineering-related planning skills and knowledge, including operations management, production planning, estimating, scheduling, and logistics support, either individually or as part of a multidisciplinary team.

No licensing, legislative or certification requirements apply to this qualification at the time of publication.

## Entry Requirements

Nil

## Packaging Rules

**Total number of units = 20**

- Five core units
- Fifteen elective units, consisting of:
  - a minimum of seven Group A units
  - a minimum of four Group B units
  - other units to bring the total number of elective units to fifteen. These may come from Groups A, B, or C or (up to four units) from any endorsed Training Package or accredited course – these units must contribute to a valid, industry-supported vocational outcome.

### CORE UNITS

Unit code	Unit title	Prerequisites
MEM16006	Organise and communicate information	*
MEM16008	Interact with computing technology	*
MEM30012	Apply mathematical techniques in a manufacturing engineering or related environment	

MEM13015	Work safely and effectively in manufacturing and engineering	
MSMENV272	Participate in environmentally sustainable work practices	

## ELECTIVE UNITS

Prerequisites for elective units must be completed. Prerequisites only count towards the number of electives required for a group if they are listed in that group. See individual units for details of prerequisites.

## Group A – Manufacturing and engineering planning electives

Unit code	Unit title	Prerequisites
MEM14001	Schedule material deliveries	*
MEM14002	Undertake basic process planning	*
MEM14003	Undertake production scheduling	*
MEM16012	Interpret technical specifications and manuals	*
MEM22012	Coordinate resources for an engineering project or operation	*
MEM22013	Coordinate engineering projects	*
MEM22014	Coordinate engineering-related manufacturing operations	*
MEM22015	Source and estimate engineering materials requirements	*
MEM23118	Apply production and service control techniques	*
MEM23123	Evaluate manufacturing processes	
MEM23138	Evaluate suitability of materials for engineering-related applications	*
MEM234020	Coordinate small lot manufacture using rapid manufacture processes	
MEM234036	Apply configuration management procedures in engineering project management	*
MEM30019	Use resource planning software systems in manufacturing	*
MSS405025	Analyse and map a value stream	
PMBTECH50 2E	Analyse production trials	*

PMBTECH50 5E	Choose polymer materials for an application	*
TLIA0028	Implement safety stock systems	
TLIX0010X	Enable traceability in supply chains	
TLIX0021X	Work with global supply chains	

## Group B – Manufacturing and engineering electives

Unit code	Unit title	Prerequisites
MEM14091	Integrate manufacturing fundamentals into an engineering task	*
MEM22001	Perform engineering activities	*
MEM22017	Coordinate continuous improvement and technical development	*
MEM23003	Operate and program computers and/or controllers in engineering situations	*
MEM23004	Apply technical mathematics	
MEM23005	Apply statistics and probability techniques to engineering tasks	
MEM23119	Evaluate continuous improvement processes	*
MEM26012	Record and trial work processes for one-off composite products	*
MEM30007	Select common engineering materials	
MEM48030	Apply materials selection analysis techniques	*
MSS402084	Undertake root cause analysis	
MSS404056	Apply statistics to operational processes	
MSS404080	Undertake process capability improvements	
MSS405056	Use three or six sigma processes to determine and improve process capability	*
MSS405066	Determine and establish information collection requirements and processes	
PMBTECH40 1E	Predict polymer properties and characteristics	

PMBTECH40 6E	Diagnose production equipment problems	
PMBTECH50 1E	Analyse equipment performance	*
PMBTECH50 9E	Modify an existing product	

## Group C – General electives

Unit code	Unit title	Prerequisites
BSBTWK401	Build and maintain business relationships	
MEM11011	Undertake manual handling	*
MEM12024	Perform computations	*
MEM13019	Undertake work health and safety activities in the workplace	
MEM13020	Supervise work health and safety in an industrial work environment	*
MEM14006	Plan work activities	*
MEM16009	Research and analyse engineering information	*
MEM16010	Write reports	*
MEM16014	Report technical information	*
MEM23007	Apply calculus to engineering tasks	*
MEM234028	Produce and manage technical documentation	
MEM234029	Produce and manage technical publications	
MEM48031	Select ceramic and glass materials for engineering and manufacturing applications	
MEM48032	Select composite materials for engineering and manufacturing applications	
MEM29001	Work in Industry 4.0	
MEM29006	Use a SCADA system to assist Industry 4.0 operations in manufacturing and engineering	

MEM29008	Analyse and manage data in cloud-based systems	
MSMOPS400	Optimise process/plant area	
MSMOPS401	Trial new process or product	
MSS405017	Develop business plans in an organisation implementing competitive systems and practices	
MSS405037	Facilitate application of theory of constraints	
MSS405038	Optimise process costs	
MSS405047	Undertake analysis of cost and waste in terms of customer value	

## Qualification Mapping Information

No equivalent qualification.

## Links

Companion Volume implementation guides are found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b7050d37-5fd0-4740-8f7d-3b7a49c10bb2>