Australian Government

MEM60322 Advanced Diploma of Engineering - Planning

Release 1

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Modification History

Release 1. New qualification.

Qualification Description

This qualification provides skills and knowledge in advanced 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 roles including supervisory and managerial operations roles, production planning, estimating, scheduling, and logistics support, either individually or as part of a multi-disciplinary 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 = 28

- Seven core units
- Twenty-one elective units, consisting of:
  - a minimum of ten Group A units
  - a minimum of seven Group B units
  - other units to bring the total number of elective units to twenty-one. 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	*
MEM23123	Evaluate manufacturing processes	

MEM234027	Plan and manage materials supply for an engineering project or manufacturing operation	
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	*
MEM23138	Evaluate suitability of materials for engineering-related applications	*
MEM234020	Coordinate small lot manufacture using rapid manufacture processes	
MEM234026	Develop and coordinate engineering-related contingency plans	
MEM234036	Apply configuration management procedures in engineering project management	*

MEM234037	Perform maintenance-related integrated logistic support management activities	*
MEM234038	Apply systems engineering procedures to engineering design project management	
MEM30019	Use resource planning software systems in manufacturing	*
MSS405025	Analyse and map a value stream	
PMBTECH502E	Analyse production trials	*
PMBTECH505E	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	

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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	Establish data collection and processing protocols	
PMBTECH401E	Predict polymer properties and characteristics	
PMBTECH406E	Diagnose production equipment problems	
PMBTECH501E	Analyse equipment performance	*
PMBTECH509E	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	*
MEM22002	Manage self in the engineering environment	*
MEM22007	Manage environmental effects of engineering activities	*

MEM23006	Apply fluid and thermodynamics principles in engineering	*
MEM23007	Apply calculus to engineering tasks	*
MEM23063	Select and organise mechanical engineering material tests	*
MEM23064	Select and organise mechatronic engineering material tests	*
MEM23109	Apply engineering mechanics principles	*
MEM234021	Apply statistics to technology problems	
MEM234028	Produce and manage technical documentation	
MEM234029	Produce and manage technical publications	
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	
MEM48031	Select ceramic and glass materials for engineering and manufacturing applications	
MEM48032	Select composite materials for engineering and manufacturing applications	
MSMOPS400	Optimise process/plant area	
MSMOPS401	Trial new process or product	
MSS405017	Develop business plans in an organisation implementing competitive systems and practices	
MSS405034	Develop a Just in Time system	
MSS405037	Facilitate application of theory of constraints	
MSS405038	Optimise process costs	
MSS405039	Implement and optimise levelled pull system	
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

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