Australian Government

MEM30522 Certificate III in Engineering - Technical

Release 1

MEM30522 Certificate III in Engineering - Technical

Modification History

Release 1. Supersedes and is equivalent to MEM30505 Certificate III in Engineering - Technical.

Qualification Description

This qualification defines the skills and knowledge required of an Engineering Technician within metal, engineering, manufacturing and associated industries.

The skills associated with this qualification are intended to apply to a wide range of engineering work including undertaking production planning, scheduling, work studies, estimating material requirements, inspection, quality control, laboratory procedures, supplier evaluation, non-destructive testing, metallurgy, drafting, assisting in design and development work of product and processes and other technical tasks.

This qualification is designed to provide an entry pathway to technician work in industry and is available through a Training Contract associated with an Australian Traineeship or through formal skills and knowledge recognition.

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

There are no entry requirements for this qualification.

Packaging Rules

The requirement for achievement of the MEM30522 Certificate III in Engineering - Technical is the achievement of competence in ten (10) units of competency made up of:

- all three (3) core units listed below
- a minimum of four (4) and a maximum of seven (7) elective units from Group A
- a maximum of two (2) elective units from Group B
- a maximum of one (1) elective unit from Group C.

A maximum of two (2) Group A elective units, that are relevant to work as Engineering Technician 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 this Training Package, other endorsed Training Packages and accredited courses where those units are available for inclusion at Certificate III.

No other descriptor can be used.

Prerequisites

Prerequisite units count towards the total number of units. Units with prerequisite requirements are marked with an asterisk (refer to the individual units for details). All prerequisites are included in the qualification.

Core units of competency

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

Elective units of competency

Group A

Unit code	**Unit title**	**Prereq**
MEM09201	Work effectively in an engineering drafting workplace	
MEM09202	Produce freehand sketches	
MEM09203	Measure and sketch site information	
MEM09204	Produce basic engineering detail drawings	*
MEM09205	Produce electrical schematic drawings	*
MEM09208	Detail fasteners and locking devices in mechanical drawings	*
MEM09209	Detail bearings, seals and other componentry in mechanical drawings	*
MEM09213	Produce schematic drawings for hydraulic and pneumatic fluid power systems	*
MEM09223	Interpret design specifications for structural steel detailing	*
MEM09224	Detail bolts and welds for structural steelwork connections	*
MEM09229	Read and interpret technical engineering drawings	
MEM11011	Undertake manual handling	*
MEM12023	Perform engineering measurements	*

MEM12024	Perform computations	*
MEM13003	Work safely with industrial chemicals and materials	*
MEM13004	Work safely with molten metals/glass	*
MEM13015	Work safely and effectively in manufacturing and engineering	
MEM13018	Work safely with ionizing radiation	
MEM13019	Undertake work health and safety activities in the workplace	
MEM15001	Perform basic statistical quality control	*
MEM16003	Provide advanced customer service	*
MEM18001	Use hand tools	*
MEM30005	Calculate force systems within simple beam structures	*
MEM30006	Calculate stresses in simple structures	*
MEM30007	Select common engineering materials	
MEM30008	Apply basic economic and ergonomic concepts to evaluate engineering applications	
MEM30009	Contribute to the design of basic mechanical systems	*
MEM30010	Set up basic hydraulic circuits	
MEM30011	Set up basic pneumatic circuits	
MEM30013	Assist in the preparation of a basic workplace layout	
MEM30014	Apply basic just in time systems to the reduction of waste	
MEM30015	Develop recommendations for basic set up time improvements	
MEM30016	Assist in the analysis of a supply chain	
MEM30017	Use basic preventative maintenance techniques and tools	
MEM30018	Undertake basic process planning	
MEM30019	Use resource planning software systems in manufacturing	*
MEM30020	Develop and manage a plan for a simple manufacturing related project	

MEM30021	Prepare a simple production schedule	
MEM30022	Undertake supervised procurement activities	
MEM30023	Prepare a simple cost estimate for a manufactured product	
MEM30024	Participate in quality assurance techniques	*
MEM30025	Analyse a simple electrical system circuit	*
MEM30026	Select and test components for simple electronic switching and timing circuits	*
MEM30027	Prepare basic programs for programmable logic controllers	
MEM30028	Assist in sales of technical products	
MEM30031	Operate computer-aided design (CAD) system to produce basic drawing elements	
MEM30032	Produce basic engineering drawings	
MEM30033	Use computer-aided design (CAD) to create and display 3D models	*
MEM48001	Test the mechanical properties of materials	
MEM48002	Monitor ferrous melting and casting processes	
MEM48003	Monitor nonferrous melting and casting processes	
MEM48004	Interpret basic binary phase diagrams	
MEM48005	Apply basic knowledge of casting operations	
MSMENV272	Participate in environmentally sustainable work practices	
MSS402003	Apply competitive systems and practices	
MSS402004	Sustain process improvements	
MSS402022	Apply quick changeover procedures	
MSS402032	Interpret cost and waste in terms of customer value	
MSS402054	Monitor process capability	
MSS402062	Use SCADA systems in operations	
MSS402084	Undertake root cause analysis	

MSS402086	Use planning software systems in operations	
MSS402087	Apply cost factors to work practices	
MSS403031	Analyse and improve manual handling processes	
MSS403081	Ensure process improvements are sustained	
MSS403082	Improve cost factors in work practices	
MSTGN4002	Participate in product engineering	
MSTGN4007	Contribute to the development of products or processes	
TLIG2007	Work in a socially diverse environment	

Group B

Unit code	Unit title	Prereq
MEM24001	Perform basic penetrant testing	*
MEM24003	Perform basic magnetic particle testing	*
MEM24005	Perform basic eddy current testing	*

Group C

Unit code	Unit title	Prereq
MEM24007	Perform ultrasonic thickness testing	*
MEM24009	Perform basic radiographic testing	*

Qualification Mapping Information

Release 1. Supersedes and is equivalent to MEM30505 Certificate III in Engineering - Technical.

Links

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