



Australian Government

MEM31622 Certificate III in Engineering - Patternmaking Trade

Release 1

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Modification History

Release 1. New qualification. Content from Certificate III in Engineering – Fabrication Trade utilised to develop individualised qualification.

Qualification Description

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

The skills associated with this qualification are intended to apply to a wide range of patternmaking work including constructing full-size engineering model out of timber. Patternmakers also produce visual models, experimental models and models for the manufacture of prototype developmental products

This qualification is designed to provide an industry recognised skills profile related to work as a patternmaker. 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.

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

To be awarded MEM31622 Certificate III in Engineering - Patternmaking Trade, units of competency to the value of 108 points must be achieved, chosen as outlined below:

- all core units of competency listed below (totalling 57 points) and
- units to a minimum value of 40 points from Group A electives as described below and
- units to a maximum value of 11 points may be taken from Group B electives to bring the total value to at least 108 points

Appropriate Group B elective units to the value of 8 points may be chosen from other MEM qualifications and 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 patternmaking trade environment.

Registered Training Organisations (RTOs) must seek a determination from the industry parties in respect of the allocations of point 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 point values.

No other descriptor can be used.

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 of competency

Unit Code	Unit Title	Points	Prerequisites
MEM04018	Perform general woodworking machine operations	4	*
MEM04029	Develop and manufacture conveyor screw patterns	2	*
MEM04030	Develop and manufacture propeller patterns	2	*
MEM04038	Produce polymer patterns	8	*
MEM04040	Develop and manufacture polystyrene patterns	2	*
MEM07032	Use workshop machines for basic operations	2	*
MEM09002	Interpret technical drawing	4	*
MEM11011	Undertake manual handling	2	*
MEM12023	Perform engineering measurements	5	*
MEM12024	Perform computations	3	*
MEM12026	Perform advanced trade calculations in a manufacturing, engineering or related environment	4	*
MEM13015	Work safely and effectively in manufacturing and engineering	2	
MEM14006	Plan work activities	4	*

Unit Code	Unit Title	Points	Prerequisites
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	*
MSMENV272	Participate in environmentally sustainable work practices	3	

Elective units of competency

Group A

Unit Code	Unit Title	Points	Prerequisites
MEM04026	Develop and manufacture spur gear patterns	2	*
MEM04027	Develop and manufacture bevel gear patterns	2	*
MEM04028	Develop and manufacture chain gear and sprocket patterns	2	*
MEM04031	Develop and manufacture flat back wood patterns	4	*
MEM04032	Develop and manufacture irregular joint wood patterns	3	*
MEM04033	Develop and manufacture turned wood patterns	3	*
MEM04034	Develop and manufacture wooden wheel patterns	4	*
MEM04035	Develop and manufacture pipe patterns	4	*
MEM04036	Maintain patterns	2	*
MEM04037	Develop and manufacture split patterns	2	*
MEM04039	Assemble plated patterns	8	*
MEM04041	Develop and manufacture production patterns	8	*
MEM04042	Develop and manufacture vacuum forming moulds and associated equipment	6	*

Unit Code	Unit Title	Points	Prerequisites
MEM04026	Develop and manufacture spur gear patterns	2	*
MEM04043	Develop and manufacture precision models	6	*
MEM07005	Perform general machining	8	*
MEM12006	Mark off/out (general engineering)	4	*
MEM13003	Work safely with industrial chemicals and materials	2	*
MEM13004	Work safely with molten metals/glass	2	*

Group B

Unit Code	Unit Title	Points	Prerequisites
MEM09011	Apply basic engineering design concepts	6	*
MEM11016	Order materials	2	*
MEM12001	Use comparison and basic measuring devices	2	*
MEM12003	Perform precision mechanical measurement	2	*
MEM12019	Measure components using coordinate measuring machines	4	*
MEM12020	Set and operate coordinate measuring machines	2	*
MEM12021	Program coordinate measuring machines	4	*
MEM12022	Program coordinate measuring machines (advanced)	2	*
MEM13001	Perform emergency first aid	1	*
MEM13019	Undertake work health and safety activities in the workplace	3	
MEM15004	Perform inspection	2	*
MEM16005	Operate as a team member to conduct manufacturing, engineering or related activities	2	*

Qualification Mapping Information

Release 1. New qualification.

Links

Companion Volume implementation guides are found in VETNet -

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