



Australian Government

MEM40422 Certificate IV in Engineering Drafting

Release 2

MEM40422 Certificate IV in Engineering Drafting

Modification History

Release 2. Imported elective units updated. Supersedes and equivalent to MEM40422 Certificate IV in Engineering Drafting (Release 1).

Release 1. Supersedes and is equivalent to MEM40412 Certificate IV in Engineering Drafting.

Qualification Description

This qualification defines the skills and knowledge required of a detail draftsman producing specialist engineering drawings within metal, engineering, manufacturing and associated industries.

The skills associated with this qualification are intended to apply to the production of engineering detail drawings as applied in manufacturing, engineering and related industry sectors and is intended to be packaged to meet the specific needs of drafting in mechanical and machine construction and maintenance, steel fabrication, other fabrication services and assembly, mechanical services, electrical services, fluid power, piping assembly and related industrial applications.

This qualification should not be used for VET in Schools unless the students are formally engaged in a traineeship in accordance with the Australian Apprenticeships policy.

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 MEM40422 Certificate IV in Engineering Drafting is the achievement of competence in fifteen (15) units of competency made up of:

- all four (4) core units of competency listed below and
- a minimum of eight (8) units from Group A and
- the balance of units may be chosen from Group A or Group B to bring the total number of elective units to eleven (11) as described below.

A maximum of two (2) Group B elective units, that are relevant to work as engineering detail drafter 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 or IV.

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	
MSMENV272	Participate in environmentally sustainable work practices	

Elective units of competency

Group A

Unit code	Unit title	Prereq
CPCWHS1001	Prepare to work safely in the construction industry	
CPCPCM4012	Estimate and cost work	
MEM09002	Interpret technical drawing	*
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	*
MEM09206	Produce drawings for mechanical services	*

MEM09207	Produce drawings for reticulated services	*
MEM09208	Detail fasteners and locking devices in mechanical drawings	*
MEM09209	Detail bearings, seals and other componentry in mechanical drawings	*
MEM09210	Create 3D solid models using computer-aided design (CAD) system	*
MEM09211	Produce drawings or models for industrial piping	*
MEM09212	Produce detailed drawings of steel to non-steel connections	*
MEM09213	Produce schematic drawings for hydraulic and pneumatic fluid power systems	*
MEM09216	Interpret and produce curved 3D shapes and patterns	
MEM09217	Prepare plans for pipe and duct fabrication	*
MEM09218	Participate in drafting projects for building services	*
MEM09219	Prepare drawings for fabricated sheet metal products	*
MEM09220	Apply surface modelling techniques to 3D drawings	*
MEM09221	Create 3D model assemblies using computer-aided design (CAD) system	*
MEM09223	Interpret design specifications for structural steel detailing	*
MEM09224	Detail bolts and welds for structural steelwork connections	*
MEM09225	Detail standardised structural connections	*
MEM09226	Detail structural steel members	*
MEM09228	Detail ancillary steelwork	*
MEM09229	Read and interpret technical engineering drawings	
MEM12023	Perform engineering measurements	*
MEM13015	Work safely and effectively in manufacturing and engineering	
MEM15001	Perform basic statistical quality control	*
MEM16014	Report technical information	*

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	*
UEECD0007	Apply work health and safety regulations, codes and practices in the workplace	
UEECD0051	Use drawings, diagrams, schedules, standards, codes and specifications	*
UEPMNT419	Perform civil drafting	*

Group B

Unit code	Unit title	Prereq
MEM05085	Select welding processes	*
MEM12024	Perform computations	*
MEM16003	Provide advanced customer service	*
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	
MEM30010	Set up basic hydraulic circuits	
MEM30011	Set up basic pneumatic circuits	
MEM30013	Assist in the preparation of a basic workplace layout	
MEM30016	Assist in the analysis of a supply chain	
MEM30019	Use resource planning software systems in manufacturing	*
MEM30023	Prepare a simple cost estimate for a manufactured product	
MEM30024	Participate in quality assurance techniques	*

MEM30025	Analyse a simple electrical system circuit	*
MSS402004	Sustain process improvements	
MSS402055	Apply quality standards	
MSS402087	Apply cost factors to work practices	
MSTGN4017	Participate in product engineering	
TLIG2007	Work in a socially diverse environment	

Qualification Mapping Information

Release 2. Supersedes and equivalent to MEM40422 Certificate IV in Engineering Drafting (Release 1).

Release 1. Supersedes and is equivalent to MEM40412 Certificate IV in Engineering Drafting.

Links

Companion Volume implementation guides are found in VETNet -

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