



**Australian Government**

# **MEM31925 Certificate III in Engineering - Fabrication Trade**

# MEM31925 Certificate III in Engineering - Fabrication Trade

## Modification History

Release	Comments
1	This qualification was first released in MEM Manufacturing and Engineering Release 5.0.

## Qualification Description

This qualification defines the skills and knowledge required of an Engineering Tradesperson - Fabrication within metal, engineering, manufacturing and associated industries. The qualification has been specifically developed to meet the needs of apprentices in the above trade.

This qualification must be undertaken through a Training Contract or through formal trade recognition assessment processes.

The skills associated with this qualification are intended to apply to a wide range of fabrication work, including undertaking metal fabrication, structural steel erection, sheetmetal work, welding, blacksmithing and surface finishing.

This qualification is designed to provide an industry recognised skills profile related to trade work as an Engineering Tradesperson - Fabrication.

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. Local regulations should be checked.

## Licensing/Regulatory Information

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

## Entry Requirements

There are no entry requirements for this qualification.

## Packaging Rules

To be awarded the MEM31925 Certificate III in Engineering – Fabrication Trade, units of competency to the value of 96 points must be achieved, chosen as outlined below:

- all core units of competency listed below (totalling 33 points)

- elective units of competency to a minimum value of 40 points from Groups A, B, C, D, E, F and G as described below
- elective units of competency to a maximum value of 23 points from Group H to bring the total value to 96 points.

To be awarded the MEM31925 Certificate III in Engineering – Fabrication Trade (Boilermaking), units of competency to the value of 96 points must be achieved, chosen as outlined below:

- all core units of competency listed below (totalling 33 points)
- elective units of competency to a minimum value of 40 points from Group B as described below
- elective units of competency to a maximum value of 23 points from Group H to bring the total value to 96 points.

To be awarded the MEM31925 Certificate III in Engineering – Fabrication Trade (Welding), units of competency to the value of 96 points must be achieved, chosen as outlined below:

- all core units of competency listed below (totalling 33 points)
- elective units of competency to a minimum value of 40 points from Group C as described below
- elective units of competency to a maximum value of 23 points from Group H to bring the total value to 96 points.

To be awarded the MEM31925 Certificate III in Engineering – Fabrication Trade (Boilermaking/welding), units of competency to the value of 96 points must be achieved, chosen as outlined below:

- all core units of competency listed below (totalling 33 points)
- elective units of competency to a minimum value of 40 points from Group D as described below
- elective units of competency to a maximum value of 23 points from Group H to bring the total value to 96 points.

To be awarded the MEM31925 Certificate III in Engineering – Fabrication Trade (Sheetmetal working), units of competency to the value of 96 points must be achieved, chosen as outlined below:

- all core units of competency listed below (totalling 33 points)
- elective units of competency to a minimum value of 40 points from Group E as described below
- elective units of competency to a maximum value of 23 points from Group H to bring the total value to 96 points.

To be awarded the MEM31925 Certificate III in Engineering – Fabrication Trade (Blacksmithing), units of competency to the value of 96 points must be achieved, chosen as outlined below:

- all core units of competency listed below (totalling 33 points)

- elective units of competency to a minimum value of 40 points from Group F as described below
- elective units of competency to a maximum value of 23 points from Group H to bring the total value to 96 points.

To be awarded the MEM31925 Certificate III in Engineering – Fabrication Trade (Surface finishing), units of competency to the value of 96 points must be achieved, chosen as outlined below:

- all core units of competency listed below (totalling 33 points)
- elective units of competency to a minimum value of 40 points from Group G as described below
- elective units of competency to a maximum value of 23 points from Group H to bring the total value to 96 points.

A maximum of 8 elective points may be chosen from any other Certificate III level qualification or accredited course. Elective units must be relevant to the occupational outcomes in a fabrication 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 Manufacturing Industry Skills Alliance. Refer to the MEM Companion Volume Implementation Guide for information on determination of unit point values.

### 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

Unit code	Unit title	Points	Prerequisites
MEM09002	Interpret technical drawing	4	*
MEM11011	Undertake manual handling	2	*
MEM12023	Perform engineering measurements	5	*
MEM12024	Perform computations	3	*
MEM13015	Work safely and effectively in manufacturing and engineering	2	
MEM14006	Plan work activities	4	*
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

Packaging for a generic fabrication trade qualification - choose a minimum value of 40 points from Group A.

Packaging for a trade specialisation - choose a minimum value of 40 points from one of either Group B or C or D or E or F or G.

### Group A - Fabrication Trade generic electives

Unit code	Unit title	Points	Prerequisites
MEM05003	Perform soft soldering	2	*
MEM05004	Perform routine oxy fuel gas welding	2	*
MEM05005	Carry out mechanical cutting	2	*
MEM05006	Perform brazing and/or silver soldering	2	*
MEM05007	Perform manual heating and thermal cutting	2	*
MEM05009	Perform automated thermal cutting	2	*
MEM05010	Apply fabrication, forming and shaping techniques	8	*
MEM05012	Perform routine manual metal arc welding	2	*
MEM05014	Monitor quality of production welding/fabrications	2	*
MEM05037	Perform geometric development	6	*
MEM05049	Perform routine gas tungsten arc welding	2	*
MEM05050	Perform routine gas metal arc welding	2	*
MEM05052	Apply safe welding practices	4	*
MEM05056	Perform routine flux core arc welding	2	*

MEM05057	Perform routine submerged arc welding	2	*
MEM05059	Perform advanced welding using submerged arc welding	4	*
MEM05065	Maintain weld records	4	*
MEM05071	Perform advanced manual thermal cutting, gouging and shaping	2	*
MEM05072	Perform advanced welding using manual metal arc welding process	4	*
MEM05073	Perform advanced welding using gas metal arc welding process	4	*
MEM05074	Perform advanced welding using gas tungsten arc welding process	4	*
MEM05075	Perform advanced welding using oxy acetylene welding process	4	*
MEM05084	Perform advanced welding using flux core arc welding process	4	*
MEM05086	Set and edit computer controlled thermal cutting machines	4	*
MEM05089	Assemble fabricated components	8	*
MEM05090	Weld using manual metal arc welding process	4	*
MEM05091	Weld using gas metal arc welding process	4	*
MEM05092	Weld using gas tungsten arc welding process	4	*
MEM05093	Weld using submerged arc welding process	4	*
MEM05094	Repair, replace and/or modify fabrications	4	*
MEM05095	Weld using flame powder spraying	4	*
MEM05096	Weld using flux core arc welding process	4	*
MEM05097	Weld using oxy fuel gas welding process	4	*
MEM08010	Manually finish/polish materials	6	*
MEM09011	Apply basic engineering design concepts	6	*

MEM12007	Mark off/out structural fabrications and shapes	4	*
MEM18055	Dismantle, replace and assemble engineering components	3	*

### Group B - Boilermaking Trade specialisation electives

Unit code	Unit title	Points	Prerequisites
MEM05004	Perform routine oxy fuel gas welding	2	*
MEM05005	Carry out mechanical cutting	2	*
MEM05007	Perform manual heating and thermal cutting	2	*
MEM05009	Perform automated thermal cutting	2	*
MEM05010	Apply fabrication, forming and shaping techniques	8	*
MEM05012	Perform routine manual metal arc welding	2	*
MEM05037	Perform geometric development	6	*
MEM05049	Perform routine gas tungsten arc welding	2	*
MEM05050	Perform routine gas metal arc welding	2	*
MEM05052	Apply safe welding practices	4	*
MEM05056	Perform routine flux core arc welding	2	*
MEM05057	Perform routine submerged arc welding	2	*
MEM05071	Perform advanced manual thermal cutting, gouging and shaping	2	*
MEM05085	Select welding processes	2	*
MEM05089	Assemble fabricated components	8	*
MEM05090	Weld using manual metal arc welding process	4	*
MEM05091	Weld using gas metal arc welding process	4	*
MEM05092	Weld using gas tungsten arc welding process	4	*
MEM05093	Weld using submerged arc welding process	4	*
MEM05094	Repair, replace and/or modify fabrications	4	*

MEM05096	Weld using flux core arc welding process	4	*
MEM05097	Weld using oxy fuel gas welding process	4	*
MEM09011	Apply basic engineering design concepts	6	*
MEM12007	Mark off/out structural fabrications and shapes	4	*
MEM18055	Dismantle, replace and assemble engineering components	3	*

### Group C - Welding Trade specialisation electives

Unit code	Unit title	Points	Prerequisites
MEM05004	Perform routine oxy fuel gas welding	2	*
MEM05005	Carry out mechanical cutting	2	*
MEM05006	Perform brazing and/or silver soldering	2	*
MEM05007	Perform manual heating and thermal cutting	2	*
MEM05012	Perform routine manual metal arc welding	2	*
MEM05014	Monitor quality of production welding/fabrications	2	*
MEM05049	Perform routine gas tungsten arc welding	2	*
MEM05050	Perform routine gas metal arc welding	2	*
MEM05052	Apply safe welding practices	4	*
MEM05056	Perform routine flux core arc welding	2	*
MEM05057	Perform routine submerged arc welding	2	*
MEM05059	Perform advanced welding using submerged arc welding	4	*
MEM05065	Maintain weld records	4	*
MEM05071	Perform advanced manual thermal cutting, gouging and shaping	2	*
MEM05072	Perform advanced welding using manual metal arc welding process	4	*



MEM05073	Perform advanced welding using gas metal arc welding process	4	*
MEM05074	Perform advanced welding using gas tungsten arc welding process	4	*
MEM05075	Perform advanced welding using oxy acetylene welding process	4	*
MEM05084	Perform advanced welding using flux core arc welding process	4	*
MEM05085	Select welding processes	2	*
MEM05086	Set and edit computer controlled thermal cutting machines	4	*
MEM05089	Assemble fabricated components	8	*
MEM05090	Weld using manual metal arc welding process	4	*
MEM05091	Weld using gas metal arc welding process	4	*
MEM05092	Weld using gas tungsten arc welding process	4	*
MEM05093	Weld using submerged arc welding process	4	*
MEM05095	Weld using flame powder spraying	4	*
MEM05096	Weld using flux core arc welding process	4	*
MEM05097	Weld using oxy fuel gas welding process	4	*

#### Group D - Boliermaking/Welding Trade specialisation electives

Unit code	Unit title	Points	Prerequisites
MEM05004	Perform routine oxy fuel gas welding	2	*
MEM05005	Carry out mechanical cutting	2	*
MEM05007	Perform manual heating and thermal cutting	2	*
MEM05009	Perform automated thermal cutting	2	*
MEM05010	Apply fabrication, forming and shaping techniques	8	*
MEM05012	Perform routine manual metal arc welding	2	*

MEM05037	Perform geometric development	6	*
MEM05049	Perform routine gas tungsten arc welding	2	*
MEM05050	Perform routine gas metal arc welding	2	*
MEM05052	Apply safe welding practices	4	*
MEM05056	Perform routine flux core arc welding	2	*
MEM05057	Perform routine submerged arc welding	2	*
MEM05059	Perform advanced welding using submerged arc welding	4	*
MEM05065	Maintain weld records	4	*
MEM05071	Perform advanced manual thermal cutting, gouging and shaping	2	*
MEM05072	Perform advanced welding using manual metal arc welding process	4	*
MEM05073	Perform advanced welding using gas metal arc welding process	4	*
MEM05074	Perform advanced welding using gas tungsten arc welding process	4	*
MEM05075	Perform advanced welding using oxy acetylene welding process	4	*
MEM05084	Perform advanced welding using flux core arc welding process	4	*
MEM05085	Select welding processes	2	*
MEM05086	Set and edit computer controlled thermal cutting machines	4	*
MEM05089	Assemble fabricated components	8	*
MEM05090	Weld using manual metal arc welding process	4	*
MEM05091	Weld using gas metal arc welding process	4	*
MEM05092	Weld using gas tungsten arc welding process	4	*
MEM05093	Weld using submerged arc welding process	4	*

MEM05094	Repair, replace and/or modify fabrications	4	*
MEM05095	Weld using flame powder spraying	4	*
MEM05096	Weld using flux core arc welding process	4	*
MEM05097	Weld using oxy fuel gas welding process	4	*
MEM09011	Apply basic engineering design concepts	6	*
MEM12007	Mark off/out structural fabrications and shapes	4	*
MEM18055	Dismantle, replace and assemble engineering components	3	*

### Group E - Sheetmetal Working Trade specialisation electives

Unit code	Unit title	Points	Prerequisites
MEM05003	Perform soft soldering	2	*
MEM05004	Perform routine oxy fuel gas welding	2	*
MEM05005	Carry out mechanical cutting	2	*
MEM05006	Perform brazing and/or silver soldering	2	*
MEM05007	Perform manual heating and thermal cutting	2	*
MEM05010	Apply fabrication, forming and shaping techniques	8	*
MEM05012	Perform routine manual metal arc welding	2	*
MEM05037	Perform geometric development	6	*
MEM05049	Perform routine gas tungsten arc welding	2	*
MEM05050	Perform routine gas metal arc welding	2	*
MEM05052	Apply safe welding practices	4	*
MEM05056	Perform routine flux core arc welding	2	*
MEM05057	Perform routine submerged arc welding	2	*
MEM05085	Select welding processes	2	*
MEM05089	Assemble fabricated components	8	*
MEM05090	Weld using manual metal arc welding process	4	*

MEM05091	Weld using gas metal arc welding process	4	*
MEM05092	Weld using gas tungsten arc welding process	4	*
MEM05097	Weld using oxy fuel gas welding process	4	*
MEM09011	Apply basic engineering design concepts	6	*
MEM12007	Mark off/out structural fabrications and shapes	4	*
MEM18055	Dismantle, replace and assemble engineering components	3	*

### Group F - Blacksmithing Trade specialisation electives

Unit code	Unit title	Points	Prerequisites
MEM05005	Carry out mechanical cutting	2	*
MEM05007	Perform manual heating and thermal cutting	2	*
MEM05012	Perform routine manual metal arc welding	2	*
MEM05049	Perform routine gas tungsten arc welding	2	*
MEM05050	Perform routine gas metal arc welding	2	*
MEM05056	Perform routine flux core arc welding	2	*
MEM05057	Perform routine submerged arc welding	2	*
MEM06003	Carry out heat treatment	6	*
MEM06004	Select heat treatment processes and test finished product	6	*
MEM06007	Perform basic incidental heat/quenching, tempering and annealing	2	*
MEM06010	Perform hand forging	4	*
MEM06011	Perform power hammer forging	4	*
MEM06012	Perform drop and upset forging	4	*
MEM06013	Repair springs	4	*
MEM06014	Perform power hammer forging of complex shapes	4	*

MEM06015	Hand forge complex shapes	4	*
MEM06016	Perform press forging	4	*
MEM06017	Perform press forging of complex shapes	4	*

### Group G - Surface Finishing Trade specialisation electives

Unit code	Unit title	Points	Prerequisites
MEM08001	Perform wire, jig and barrel load/unload work	4	*
MEM08002	Pre-treat work for subsequent surface coating	4	*
MEM08003	Perform electroplating operations	6	*
MEM08004	Finish work using wet, dry and vapour deposition methods	4	*
MEM08005	Prepare and produce specialised coatings	4	*
MEM08006	Produce clear and/or coloured and/or sealed anodised films on aluminium	2	*
MEM08007	Control surface finish production and finished product quality	4	*
MEM08008	Operate and control surface finishing waste treatment process	3	*
MEM08009	Make up solutions	2	*
MEM08010	Manually finish/polish materials	6	*
MEM08011	Prepare surfaces using solvents and/or mechanical means	2	*
MEM08012	Prepare surfaces by abrasive blasting (basic)	4	*
MEM08013	Prepare surfaces by abrasive blasting (advanced)	4	*
MEM08014	Apply protective coatings (basic)	4	*
MEM08015	Apply protective coatings (advanced)	4	*
MEM08016	Control blast coating by-products, materials and emissions	1	*
MEM08018	Electroplate engineering coatings	6	*

MEM08019	Electroplate protective finishes	6	*
MEM08020	Electroplate decorative finishes	6	*
MEM11009	Handle/move bulk fluids/gases	4	*

### Group H - General electives

Unit code	Unit title	Points	Prerequisites
MEM05001	Perform manual soldering/desoldering - electrical/electronic components	4	*
MEM05002	Perform high reliability soldering and desoldering	4	*
MEM05003	Perform soft soldering	2	*
MEM05004	Perform routine oxy fuel gas welding	2	*
MEM05005	Carry out mechanical cutting	2	*
MEM05006	Perform brazing and/or silver soldering	2	*
MEM05007	Perform manual heating and thermal cutting	2	*
MEM05009	Perform automated thermal cutting	2	*
MEM05010	Apply fabrication, forming and shaping techniques	8	*
MEM05012	Perform routine manual metal arc welding	2	*
MEM05014	Monitor quality of production welding/fabrications	2	*
MEM05027	Perform aluminothermic welding	2	*
MEM05037	Perform geometric development	6	*
MEM05049	Perform routine gas tungsten arc welding	2	*
MEM05050	Perform routine gas metal arc welding	2	*
MEM05052	Apply safe welding practices	4	*
MEM05056	Perform routine flux core arc welding	2	*
MEM05057	Perform routine submerged arc welding	2	*

MEM05059	Perform advanced welding using submerged arc welding	4	*
MEM05065	Maintain weld records	4	*
MEM05071	Perform advanced manual thermal cutting, gouging and shaping	2	*
MEM05072	Perform advanced welding using manual metal arc welding process	4	*
MEM05073	Perform advanced welding using gas metal arc welding process	4	*
MEM05074	Perform advanced welding using gas tungsten arc welding process	4	*
MEM05075	Perform advanced welding using oxy acetylene welding process	4	*
MEM05084	Perform advanced welding using flux core arc welding process	4	*
MEM05085	Select welding processes	2	*
MEM05086	Set and edit computer controlled thermal cutting machines	4	*
MEM05089	Assemble fabricated components	8	*
MEM05090	Weld using manual metal arc welding process	4	*
MEM05091	Weld using gas metal arc welding process	4	*
MEM05092	Weld using gas tungsten arc welding process	4	*
MEM05093	Weld using submerged arc welding process	4	*
MEM05094	Repair, replace and/or modify fabrications	4	*
MEM05095	Weld using flame powder spraying	4	*
MEM05096	Weld using flux core arc welding process	4	*
MEM05097	Weld using oxy fuel gas welding process	4	*
MEM06003	Carry out heat treatment	6	*

MEM06004	Select heat treatment processes and test finished product	6	*
MEM06007	Perform basic incidental heat/quenching, tempering and annealing	2	*
MEM06010	Perform hand forging	4	*
MEM06011	Perform power hammer forging	4	*
MEM06012	Perform drop and upset forging	4	*
MEM06013	Repair springs	4	*
MEM06014	Perform power hammer forging of complex shapes	4	*
MEM06015	Hand forge complex shapes	4	*
MEM06016	Perform press forging	4	*
MEM06017	Perform press forging of complex shapes	4	*
MEM07001	Perform operational maintenance of machines/equipment	2	*
MEM07015	Set computer controlled machines and processes	2	*
MEM07016	Set and edit computer controlled machines and processes	4	*
MEM07024	Operate and monitor machine and process	4	*
MEM07028	Operate computer controlled machines and processes	2	*
MEM07030	Perform basic metal spinning lathe operations	8	*
MEM07031	Perform complex metal spinning lathe operations	4	*
MEM07032	Use workshop machines for basic operations	2	*
MEM08001	Perform wire, jig and barrel load/unload work	4	*
MEM08002	Pre-treat work for subsequent surface coating	4	*
MEM08003	Perform electroplating operations	6	*



MEM08004	Finish work using wet, dry and vapour deposition methods	4	*
MEM08005	Prepare and produce specialised coatings	4	*
MEM08006	Produce clear and/or coloured and/or sealed anodised films on aluminium	2	*
MEM08007	Control surface finish production and finished product quality	4	*
MEM08008	Operate and control surface finishing waste treatment process	3	*
MEM08009	Make up solutions	2	*
MEM08010	Manually finish/polish materials	6	*
MEM08011	Prepare surfaces using solvents and/or mechanical means	2	*
MEM08012	Prepare surfaces by abrasive blasting (basic)	4	*
MEM08013	Prepare surfaces by abrasive blasting (advanced)	4	*
MEM08014	Apply protective coatings (basic)	4	*
MEM08015	Apply protective coatings (advanced)	4	*
MEM08016	Control blast coating by-products, materials and emissions	1	*
MEM08018	Electroplate engineering coatings	6	*
MEM08019	Electroplate protective finishes	6	*
MEM08020	Electroplate decorative finishes	6	*
MEM09003	Prepare basic engineering drawing	8	*
MEM09011	Apply basic engineering design concepts	6	*
MEM10010	Install pipework and pipework assemblies	4	*
MEM10012	Erect structures	4	*
MEM11001	Erect/dismantle scaffolding and equipment	4	*
MEM11009	Handle/move bulk fluids/gases	4	*

MEM11010	Operate mobile load shifting equipment	4	*
MEM11016	Order materials	2	*
MEM11022	Operate fixed/moveable load shifting equipment	4	*
MEM12007	Mark off/out structural fabrications and shapes	4	*
MEM12025	Use graphical techniques and perform simple statistical computations	2	*
MEM13001	Perform emergency first aid	1	*
MEM13003	Work safely with industrial chemicals and materials	2	*
MEM13019	Undertake work health and safety activities in the workplace	3	
MEM15001	Perform basic statistical quality control	2	*
MEM15003	Use improvement processes in team activities	4	*
MEM15004	Perform inspection	2	*
MEM16004	Perform internal/external customer service	2	*
MEM16005	Operate as a team member to conduct manufacturing, engineering or related activities	2	*
MEM18003	Use tools for precision work	4	*
MEM18011	Shut down and isolate machines/equipment	2	*
MEM18055	Dismantle, replace and assemble engineering components	3	*
MEM18110	Perform basic penetrant testing	2	*
MEM18111	Perform basic magnetic particle testing	2	*
MEM18113	Perform ultrasonic thickness testing	2	*
MSMENV472	Implement and monitor environmentally sustainable work practices	4	
TLILIC0003	Licence to operate a forklift truck	0	

TLILIC0024	Licence to operate a vehicle loading crane (capacity 10 metre tonnes and above)	1	
------------	---	---	--

## Pre-requisite Requirements

Unit of competency	Prerequisite requirement
MEM06004 Select heat treatment processes and test finished product	MEM16006 Organise and communicate information MEM06003 Carry out heat treatment MEM13015 Work safely and effectively in manufacturing and engineering MEM11011 Undertake manual handling
MEM16006 Organise and communicate information	MEM13015 Work safely and effectively in manufacturing and engineering
MEM06013 Repair springs	MEM16006 Organise and communicate information MEM06003 Carry out heat treatment MEM06010 Perform hand forging MEM18001 Use hand tools MEM13015 Work safely and effectively in manufacturing and engineering MEM11011 Undertake manual handling
MEM09003 Prepare basic engineering drawing	MEM16006 Organise and communicate information MEM12024 Perform computations MEM13015 Work safely and effectively in manufacturing and engineering MEM12023 Perform engineering measurements MEM09002 Interpret technical drawing

MEM05009 Perform automated thermal cutting	<p>MEM16006 Organise and communicate information</p> <p>MEM13015 Work safely and effectively in manufacturing and engineering</p> <p>MEM11011 Undertake manual handling</p> <p>MEM12023 Perform engineering measurements</p>
MEM05059 Perform advanced welding using submerged arc welding	<p>MEM16006 Organise and communicate information</p> <p>MEM05007 Perform manual heating and thermal cutting</p> <p>MEM14006 Plan work activities</p> <p>MEM05052 Apply safe welding practices</p> <p>MEM05085 Select welding processes</p> <p>MEM18002 Use power tools/hand held operations</p> <p>MEM18001 Use hand tools</p> <p>MEM12024 Perform computations</p> <p>MEM13015 Work safely and effectively in manufacturing and engineering</p> <p>MEM11011 Undertake manual handling</p> <p>MEM12023 Perform engineering measurements</p> <p>MEM05057 Perform routine submerged arc welding</p> <p>MEM09002 Interpret technical drawing</p> <p>MEM05093 Weld using submerged arc welding process</p>
MEM15003 Use improvement processes in team activities	<p>MEM16006 Organise and communicate information</p>

	MEM13015 Work safely and effectively in manufacturing and engineering
MEM05073 Perform advanced welding using gas metal arc welding process	<p>MEM16006 Organise and communicate information</p> <p>MEM05007 Perform manual heating and thermal cutting</p> <p>MEM14006 Plan work activities</p> <p>MEM05052 Apply safe welding practices</p> <p>MEM05085 Select welding processes</p> <p>MEM18002 Use power tools/hand held operations</p> <p>MEM18001 Use hand tools</p> <p>MEM05050 Perform routine gas metal arc welding</p> <p>MEM12024 Perform computations</p> <p>MEM13015 Work safely and effectively in manufacturing and engineering</p> <p>MEM05091 Weld using gas metal arc welding process</p> <p>MEM11011 Undertake manual handling</p> <p>MEM12023 Perform engineering measurements</p> <p>MEM09002 Interpret technical drawing</p>
MEM08001 Perform wire, jig and barrel load/unload work	<p>MEM16006 Organise and communicate information</p> <p>MEM13015 Work safely and effectively in manufacturing and engineering</p> <p>MEM11011 Undertake manual handling</p>
MEM05052 Apply safe welding practices	MEM16006 Organise and communicate information

	MEM13015 Work safely and effectively in manufacturing and engineering
MEM05090 Weld using manual metal arc welding process	<p>MEM16006 Organise and communicate information</p> <p>MEM14006 Plan work activities</p> <p>MEM05052 Apply safe welding practices</p> <p>MEM05085 Select welding processes</p> <p>MEM18002 Use power tools/hand held operations</p> <p>MEM18001 Use hand tools</p> <p>MEM05012 Perform routine manual metal arc welding</p> <p>MEM12024 Perform computations</p> <p>MEM13015 Work safely and effectively in manufacturing and engineering</p> <p>MEM11011 Undertake manual handling</p> <p>MEM12023 Perform engineering measurements</p> <p>MEM09002 Interpret technical drawing</p>
MEM18110 Perform basic penetrant testing	<p>MEM16006 Organise and communicate information</p> <p>MEM18001 Use hand tools</p> <p>MEM13015 Work safely and effectively in manufacturing and engineering</p> <p>MEM11011 Undertake manual handling</p>
MEM05003 Perform soft soldering	<p>MEM16006 Organise and communicate information</p> <p>MEM13015 Work safely and effectively in manufacturing and engineering</p> <p>MEM11011 Undertake manual handling</p>

MEM18113 Perform ultrasonic thickness testing	<p>MEM16006 Organise and communicate information</p> <p>MEM18001 Use hand tools</p> <p>MEM13015 Work safely and effectively in manufacturing and engineering</p> <p>MEM11011 Undertake manual handling</p>
MEM06003 Carry out heat treatment	<p>MEM16006 Organise and communicate information</p> <p>MEM13015 Work safely and effectively in manufacturing and engineering</p> <p>MEM11011 Undertake manual handling</p>
MEM08003 Perform electroplating operations	<p>MEM16006 Organise and communicate information</p> <p>MEM13003 Work safely with industrial chemicals and materials</p> <p>MEM07001 Perform operational maintenance of machines/equipment</p> <p>MEM08001 Perform wire, jig and barrel load/unload work</p> <p>MEM18001 Use hand tools</p> <p>MEM13015 Work safely and effectively in manufacturing and engineering</p> <p>MEM11011 Undertake manual handling</p>
MEM18011 Shut down and isolate machines/equipment	<p>MEM16006 Organise and communicate information</p> <p>MEM13015 Work safely and effectively in manufacturing and engineering</p> <p>MEM11011 Undertake manual handling</p>
MEM07016 Set and edit computer controlled machines and processes	<p>MEM16006 Organise and communicate information</p> <p>MEM14006 Plan work activities</p>

	<p>MEM07028 Operate computer controlled machines and processes</p> <p>MEM18001 Use hand tools</p> <p>MEM12024 Perform computations</p> <p>MEM13015 Work safely and effectively in manufacturing and engineering</p> <p>MEM07005 Perform general machining</p> <p>MEM07015 Set computer controlled machines and processes</p> <p>MEM11011 Undertake manual handling</p> <p>MEM12023 Perform engineering measurements</p> <p>MEM09002 Interpret technical drawing</p>
MEM05085 Select welding processes	<p>MEM16006 Organise and communicate information</p> <p>MEM13015 Work safely and effectively in manufacturing and engineering</p>
MEM18055 Dismantle, replace and assemble engineering components	<p>MEM16006 Organise and communicate information</p> <p>MEM18002 Use power tools/hand held operations</p> <p>MEM18001 Use hand tools</p> <p>MEM13015 Work safely and effectively in manufacturing and engineering</p> <p>MEM11011 Undertake manual handling</p> <p>MEM12023 Perform engineering measurements</p> <p>MEM09002 Interpret technical drawing</p>
MEM05074 Perform advanced welding using gas tungsten arc welding process	<p>MEM16006 Organise and communicate information</p>



	<p>MEM05007 Perform manual heating and thermal cutting</p> <p>MEM14006 Plan work activities</p> <p>MEM05052 Apply safe welding practices</p> <p>MEM05085 Select welding processes</p> <p>MEM18002 Use power tools/hand held operations</p> <p>MEM18001 Use hand tools</p> <p>MEM12024 Perform computations</p> <p>MEM13015 Work safely and effectively in manufacturing and engineering</p> <p>MEM05092 Weld using gas tungsten arc welding process</p> <p>MEM11011 Undertake manual handling</p> <p>MEM05049 Perform routine gas tungsten arc welding</p> <p>MEM12023 Perform engineering measurements</p> <p>MEM09002 Interpret technical drawing</p>
MEM08018 Electroplate engineering coatings	<p>MEM16006 Organise and communicate information</p> <p>MEM13003 Work safely with industrial chemicals and materials</p> <p>MEM07001 Perform operational maintenance of machines/equipment</p> <p>MEM08003 Perform electroplating operations</p> <p>MEM08001 Perform wire, jig and barrel load/unload work</p> <p>MEM18001 Use hand tools</p>

	MEM13015 Work safely and effectively in manufacturing and engineering
	MEM11011 Undertake manual handling
MEM05014 Monitor quality of production welding/fabrications	MEM16006 Organise and communicate information
	MEM14006 Plan work activities
	MEM05056 Perform routine flux core arc welding
	MEM18002 Use power tools/hand held operations
	MEM18001 Use hand tools
	MEM05012 Perform routine manual metal arc welding
	MEM05050 Perform routine gas metal arc welding
	MEM12024 Perform computations
	MEM13015 Work safely and effectively in manufacturing and engineering
	MEM05004 Perform routine oxy fuel gas welding
	MEM11011 Undertake manual handling
	MEM05049 Perform routine gas tungsten arc welding
	MEM12023 Perform engineering measurements
	MEM05057 Perform routine submerged arc welding
	MEM09002 Interpret technical drawing
MEM05007 Perform manual heating and thermal cutting	MEM16006 Organise and communicate information

	<p>MEM13015 Work safely and effectively in manufacturing and engineering</p> <p>MEM11011 Undertake manual handling</p> <p>MEM12023 Perform engineering measurements</p> <p>MEM09002 Interpret technical drawing</p>
MEM08011 Prepare surfaces using solvents and/or mechanical means	<p>MEM16006 Organise and communicate information</p> <p>MEM13003 Work safely with industrial chemicals and materials</p> <p>MEM18002 Use power tools/hand held operations</p> <p>MEM18001 Use hand tools</p> <p>MEM13015 Work safely and effectively in manufacturing and engineering</p> <p>MEM11011 Undertake manual handling</p>
MEM12007 Mark off/out structural fabrications and shapes	<p>MEM16006 Organise and communicate information</p> <p>MEM14006 Plan work activities</p> <p>MEM12024 Perform computations</p> <p>MEM13015 Work safely and effectively in manufacturing and engineering</p> <p>MEM11011 Undertake manual handling</p> <p>MEM12023 Perform engineering measurements</p> <p>MEM09002 Interpret technical drawing</p>
MEM06014 Perform power hammer forging of complex shapes	<p>MEM16006 Organise and communicate information</p> <p>MEM06011 Perform power hammer forging</p>

	<p>MEM13015 Work safely and effectively in manufacturing and engineering</p> <p>MEM11011 Undertake manual handling</p>
MEM07028 Operate computer controlled machines and processes	<p>MEM16006 Organise and communicate information</p> <p>MEM07024 Operate and monitor machine and process</p> <p>MEM13015 Work safely and effectively in manufacturing and engineering</p> <p>MEM11011 Undertake manual handling</p>
MEM08008 Operate and control surface finishing waste treatment process	<p>MEM16006 Organise and communicate information</p> <p>MEM13003 Work safely with industrial chemicals and materials</p> <p>MEM13015 Work safely and effectively in manufacturing and engineering</p> <p>MEM11011 Undertake manual handling</p>
MEM05084 Perform advanced welding using flux core arc welding process	<p>MEM16006 Organise and communicate information</p> <p>MEM05007 Perform manual heating and thermal cutting</p> <p>MEM14006 Plan work activities</p> <p>MEM05096 Weld using flux core arc welding process</p> <p>MEM05052 Apply safe welding practices</p> <p>MEM05085 Select welding processes</p> <p>MEM05056 Perform routine flux core arc welding</p> <p>MEM18002 Use power tools/hand held operations</p> <p>MEM18001 Use hand tools</p>

	<p>MEM12024 Perform computations</p> <p>MEM13015 Work safely and effectively in manufacturing and engineering</p> <p>MEM11011 Undertake manual handling</p> <p>MEM12023 Perform engineering measurements</p> <p>MEM09002 Interpret technical drawing</p>
MEM05093 Weld using submerged arc welding process	<p>MEM16006 Organise and communicate information</p> <p>MEM14006 Plan work activities</p> <p>MEM05052 Apply safe welding practices</p> <p>MEM05085 Select welding processes</p> <p>MEM18002 Use power tools/hand held operations</p> <p>MEM18001 Use hand tools</p> <p>MEM12024 Perform computations</p> <p>MEM13015 Work safely and effectively in manufacturing and engineering</p> <p>MEM11011 Undertake manual handling</p> <p>MEM12023 Perform engineering measurements</p> <p>MEM05057 Perform routine submerged arc welding</p> <p>MEM09002 Interpret technical drawing</p>
MEM08016 Control blast coating by-products, materials and emissions	<p>MEM16006 Organise and communicate information</p> <p>MEM13003 Work safely with industrial chemicals and materials</p> <p>MEM13015 Work safely and effectively in manufacturing and engineering</p>

	MEM11011 Undertake manual handling
MEM08002 Pre-treat work for subsequent surface coating	<p>MEM16006 Organise and communicate information</p> <p>MEM13003 Work safely with industrial chemicals and materials</p> <p>MEM13015 Work safely and effectively in manufacturing and engineering</p> <p>MEM11011 Undertake manual handling</p>
MEM05097 Weld using oxy fuel gas welding process	<p>MEM16006 Organise and communicate information</p> <p>MEM14006 Plan work activities</p> <p>MEM05052 Apply safe welding practices</p> <p>MEM05085 Select welding processes</p> <p>MEM18002 Use power tools/hand held operations</p> <p>MEM18001 Use hand tools</p> <p>MEM12024 Perform computations</p> <p>MEM13015 Work safely and effectively in manufacturing and engineering</p> <p>MEM05004 Perform routine oxy fuel gas welding</p> <p>MEM11011 Undertake manual handling</p> <p>MEM12023 Perform engineering measurements</p> <p>MEM09002 Interpret technical drawing</p>
MEM18111 Perform basic magnetic particle testing	<p>MEM16006 Organise and communicate information</p> <p>MEM18001 Use hand tools</p> <p>MEM13015 Work safely and effectively in manufacturing and engineering</p>

	MEM11011 Undertake manual handling
MEM05002 Perform high reliability soldering and desoldering	<p>MEM16006 Organise and communicate information</p> <p>MEM13015 Work safely and effectively in manufacturing and engineering</p> <p>MEM05001 Perform manual soldering/desoldering - electrical/electronic components</p> <p>MEM11011 Undertake manual handling</p>
MEM09011 Apply basic engineering design concepts	<p>MEM16006 Organise and communicate information</p> <p>MEM12024 Perform computations</p> <p>MEM13015 Work safely and effectively in manufacturing and engineering</p> <p>MEM12023 Perform engineering measurements</p> <p>MEM09002 Interpret technical drawing</p>
MEM08005 Prepare and produce specialised coatings	<p>MEM16006 Organise and communicate information</p> <p>MEM13003 Work safely with industrial chemicals and materials</p> <p>MEM08002 Pre-treat work for subsequent surface coating</p> <p>MEM13015 Work safely and effectively in manufacturing and engineering</p> <p>MEM11011 Undertake manual handling</p>
MEM05057 Perform routine submerged arc welding	<p>MEM16006 Organise and communicate information</p> <p>MEM13015 Work safely and effectively in manufacturing and engineering</p> <p>MEM11011 Undertake manual handling</p>

MEM05065 Maintain weld records	<p>MEM16006 Organise and communicate information</p> <p>MEM05090 Weld using manual metal arc welding process</p> <p>MEM14006 Plan work activities</p> <p>MEM05096 Weld using flux core arc welding process</p> <p>MEM05097 Weld using oxy fuel gas welding process</p> <p>MEM05085 Select welding processes</p> <p>MEM18002 Use power tools/hand held operations</p> <p>MEM18001 Use hand tools</p> <p>MEM12024 Perform computations</p> <p>MEM13015 Work safely and effectively in manufacturing and engineering</p> <p>MEM05092 Weld using gas tungsten arc welding process</p> <p>MEM05091 Weld using gas metal arc welding process</p> <p>MEM11011 Undertake manual handling</p> <p>MEM12023 Perform engineering measurements</p> <p>MEM09002 Interpret technical drawing</p> <p>MEM05093 Weld using submerged arc welding process</p>
MEM08009 Make up solutions	<p>MEM16006 Organise and communicate information</p> <p>MEM13003 Work safely with industrial chemicals and materials</p>



	MEM13015 Work safely and effectively in manufacturing and engineering MEM11011 Undertake manual handling
MEM05027 Perform aluminothermic welding	MEM16006 Organise and communicate information MEM13015 Work safely and effectively in manufacturing and engineering MEM11011 Undertake manual handling
MEM16005 Operate as a team member to conduct manufacturing, engineering or related activities	MEM16006 Organise and communicate information MEM13015 Work safely and effectively in manufacturing and engineering MEM11011 Undertake manual handling
MEM11016 Order materials	MEM16006 Organise and communicate information MEM13015 Work safely and effectively in manufacturing and engineering
MEM11010 Operate mobile load shifting equipment	MEM16006 Organise and communicate information MEM13015 Work safely and effectively in manufacturing and engineering MEM11011 Undertake manual handling
MEM08020 Electroplate decorative finishes	MEM16006 Organise and communicate information MEM13003 Work safely with industrial chemicals and materials MEM07001 Perform operational maintenance of machines/equipment MEM08003 Perform electroplating operations MEM08001 Perform wire, jig and barrel load/unload work

	<p>MEM18001 Use hand tools</p> <p>MEM13015 Work safely and effectively in manufacturing and engineering</p> <p>MEM11011 Undertake manual handling</p>
MEM15001 Perform basic statistical quality control	<p>MEM16006 Organise and communicate information</p> <p>MEM12024 Perform computations</p> <p>MEM13015 Work safely and effectively in manufacturing and engineering</p>
MEM11001 Erect/dismantle scaffolding and equipment	<p>MEM16006 Organise and communicate information</p> <p>MEM18001 Use hand tools</p> <p>MEM13015 Work safely and effectively in manufacturing and engineering</p> <p>MEM11011 Undertake manual handling</p>
MEM14006 Plan work activities	<p>MEM16006 Organise and communicate information</p> <p>MEM13015 Work safely and effectively in manufacturing and engineering</p>
MEM08015 Apply protective coatings (advanced)	<p>MEM16006 Organise and communicate information</p> <p>MEM13003 Work safely with industrial chemicals and materials</p> <p>MEM08014 Apply protective coatings (basic)</p> <p>MEM13015 Work safely and effectively in manufacturing and engineering</p> <p>MEM11011 Undertake manual handling</p>
MEM15004 Perform inspection	<p>MEM16006 Organise and communicate information</p>

	<p>MEM13015 Work safely and effectively in manufacturing and engineering</p> <p>MEM11011 Undertake manual handling</p>
MEM07031 Perform complex metal spinning lathe operations	<p>MEM16006 Organise and communicate information</p> <p>MEM07032 Use workshop machines for basic operations</p> <p>MEM18002 Use power tools/hand held operations</p> <p>MEM18001 Use hand tools</p> <p>MEM07030 Perform basic metal spinning lathe operations</p> <p>MEM13015 Work safely and effectively in manufacturing and engineering</p> <p>MEM11011 Undertake manual handling</p> <p>MEM12023 Perform engineering measurements</p> <p>MEM09002 Interpret technical drawing</p>
MEM13003 Work safely with industrial chemicals and materials	<p>MEM16006 Organise and communicate information</p> <p>MEM13015 Work safely and effectively in manufacturing and engineering</p> <p>MEM11011 Undertake manual handling</p>
MEM05056 Perform routine flux core arc welding	<p>MEM16006 Organise and communicate information</p> <p>MEM13015 Work safely and effectively in manufacturing and engineering</p> <p>MEM11011 Undertake manual handling</p>
MEM07030 Perform basic metal spinning lathe operations	<p>MEM16006 Organise and communicate information</p>

	<p>MEM18002 Use power tools/hand held operations</p> <p>MEM18001 Use hand tools</p> <p>MEM13015 Work safely and effectively in manufacturing and engineering</p> <p>MEM11011 Undertake manual handling</p> <p>MEM12023 Perform engineering measurements</p> <p>MEM09002 Interpret technical drawing</p>
MEM05075 Perform advanced welding using oxy acetylene welding process	<p>MEM16006 Organise and communicate information</p> <p>MEM05007 Perform manual heating and thermal cutting</p> <p>MEM14006 Plan work activities</p> <p>MEM05097 Weld using oxy fuel gas welding process</p> <p>MEM05052 Apply safe welding practices</p> <p>MEM05085 Select welding processes</p> <p>MEM18002 Use power tools/hand held operations</p> <p>MEM18001 Use hand tools</p> <p>MEM12024 Perform computations</p> <p>MEM13015 Work safely and effectively in manufacturing and engineering</p> <p>MEM05004 Perform routine oxy fuel gas welding</p> <p>MEM11011 Undertake manual handling</p> <p>MEM12023 Perform engineering measurements</p> <p>MEM09002 Interpret technical drawing</p>

MEM18001 Use hand tools	<p>MEM16006 Organise and communicate information</p> <p>MEM13015 Work safely and effectively in manufacturing and engineering</p> <p>MEM11011 Undertake manual handling</p>
MEM08006 Produce clear and/or coloured and/or sealed anodised films on aluminium	<p>MEM16006 Organise and communicate information</p> <p>MEM08002 Pre-treat work for subsequent surface coating</p> <p>MEM13015 Work safely and effectively in manufacturing and engineering</p> <p>MEM11011 Undertake manual handling</p>
MEM05095 Weld using flame powder spraying	<p>MEM16006 Organise and communicate information</p> <p>MEM14006 Plan work activities</p> <p>MEM05097 Weld using oxy fuel gas welding process</p> <p>MEM05052 Apply safe welding practices</p> <p>MEM05085 Select welding processes</p> <p>MEM18002 Use power tools/hand held operations</p> <p>MEM18001 Use hand tools</p> <p>MEM12024 Perform computations</p> <p>MEM13015 Work safely and effectively in manufacturing and engineering</p> <p>MEM05004 Perform routine oxy fuel gas welding</p> <p>MEM11011 Undertake manual handling</p> <p>MEM12023 Perform engineering measurements</p>

	MEM09002 Interpret technical drawing
MEM10010 Install pipework and pipework assemblies	MEM16006 Organise and communicate information MEM18002 Use power tools/hand held operations MEM18001 Use hand tools MEM13015 Work safely and effectively in manufacturing and engineering MEM11011 Undertake manual handling MEM12023 Perform engineering measurements MEM09002 Interpret technical drawing
MEM05006 Perform brazing and/or silver soldering	MEM16006 Organise and communicate information MEM13015 Work safely and effectively in manufacturing and engineering MEM11011 Undertake manual handling
MEM05096 Weld using flux core arc welding process	MEM16006 Organise and communicate information MEM14006 Plan work activities MEM05052 Apply safe welding practices MEM05085 Select welding processes MEM05056 Perform routine flux core arc welding MEM18002 Use power tools/hand held operations MEM18001 Use hand tools MEM12024 Perform computations MEM13015 Work safely and effectively in manufacturing and engineering

	MEM11011 Undertake manual handling MEM12023 Perform engineering measurements
MEM05005 Carry out mechanical cutting	MEM16006 Organise and communicate information MEM18001 Use hand tools MEM13015 Work safely and effectively in manufacturing and engineering MEM11011 Undertake manual handling MEM12023 Perform engineering measurements
MEM13001 Perform emergency first aid	MEM16006 Organise and communicate information MEM13015 Work safely and effectively in manufacturing and engineering MEM11011 Undertake manual handling
MEM06012 Perform drop and upset forging	MEM16006 Organise and communicate information MEM06011 Perform power hammer forging MEM13015 Work safely and effectively in manufacturing and engineering MEM11011 Undertake manual handling
MEM06010 Perform hand forging	MEM16006 Organise and communicate information MEM18001 Use hand tools MEM13015 Work safely and effectively in manufacturing and engineering MEM11011 Undertake manual handling
MEM07024 Operate and monitor machine and process	MEM16006 Organise and communicate information

	MEM13015 Work safely and effectively in manufacturing and engineering MEM11011 Undertake manual handling
MEM07001 Perform operational maintenance of machines/equipment	MEM16006 Organise and communicate information MEM18001 Use hand tools MEM13015 Work safely and effectively in manufacturing and engineering MEM11011 Undertake manual handling
MEM06011 Perform power hammer forging	MEM16006 Organise and communicate information MEM13015 Work safely and effectively in manufacturing and engineering MEM11011 Undertake manual handling
MEM06016 Perform press forging	MEM16006 Organise and communicate information MEM13015 Work safely and effectively in manufacturing and engineering MEM11011 Undertake manual handling
MEM05010 Apply fabrication, forming and shaping techniques	MEM16006 Organise and communicate information MEM14006 Plan work activities MEM18002 Use power tools/hand held operations MEM18001 Use hand tools MEM12024 Perform computations MEM13015 Work safely and effectively in manufacturing and engineering MEM05037 Perform geometric development MEM11011 Undertake manual handling



	<p>MEM12023 Perform engineering measurements</p> <p>MEM09002 Interpret technical drawing</p>
MEM10012 Erect structures	<p>MEM16006 Organise and communicate information</p> <p>MEM12007 Mark off/out structural fabrications and shapes</p> <p>MEM05007 Perform manual heating and thermal cutting</p> <p>MEM05090 Weld using manual metal arc welding process</p> <p>MEM14006 Plan work activities</p> <p>MEM05052 Apply safe welding practices</p> <p>MEM05085 Select welding processes</p> <p>MEM18002 Use power tools/hand held operations</p> <p>MEM18001 Use hand tools</p> <p>MEM12024 Perform computations</p> <p>MEM13015 Work safely and effectively in manufacturing and engineering</p> <p>MEM05091 Weld using gas metal arc welding process</p> <p>MEM11011 Undertake manual handling</p> <p>MEM12023 Perform engineering measurements</p> <p>MEM09002 Interpret technical drawing</p>
MEM06007 Perform basic incidental heat/quenching, tempering and annealing	<p>MEM16006 Organise and communicate information</p> <p>MEM13015 Work safely and effectively in manufacturing and engineering</p>

	MEM11011 Undertake manual handling
MEM08010 Manually finish/polish materials	<p>MEM16006 Organise and communicate information</p> <p>MEM18001 Use hand tools</p> <p>MEM13015 Work safely and effectively in manufacturing and engineering</p> <p>MEM11011 Undertake manual handling</p>
MEM08004 Finish work using wet, dry and vapour deposition methods	<p>MEM16006 Organise and communicate information</p> <p>MEM13003 Work safely with industrial chemicals and materials</p> <p>MEM08002 Pre-treat work for subsequent surface coating</p> <p>MEM13015 Work safely and effectively in manufacturing and engineering</p> <p>MEM11011 Undertake manual handling</p>
MEM05071 Perform advanced manual thermal cutting, gouging and shaping	<p>MEM16006 Organise and communicate information</p> <p>MEM05007 Perform manual heating and thermal cutting</p> <p>MEM13015 Work safely and effectively in manufacturing and engineering</p> <p>MEM11011 Undertake manual handling</p> <p>MEM12023 Perform engineering measurements</p> <p>MEM09002 Interpret technical drawing</p>
MEM16008 Interact with computing technology	<p>MEM16006 Organise and communicate information</p> <p>MEM13015 Work safely and effectively in manufacturing and engineering</p>

MEM05092 Weld using gas tungsten arc welding process	<p>MEM16006 Organise and communicate information</p> <p>MEM14006 Plan work activities</p> <p>MEM05052 Apply safe welding practices</p> <p>MEM05085 Select welding processes</p> <p>MEM18002 Use power tools/hand held operations</p> <p>MEM18001 Use hand tools</p> <p>MEM12024 Perform computations</p> <p>MEM13015 Work safely and effectively in manufacturing and engineering</p> <p>MEM11011 Undertake manual handling</p> <p>MEM05049 Perform routine gas tungsten arc welding</p> <p>MEM12023 Perform engineering measurements</p> <p>MEM09002 Interpret technical drawing</p>
MEM08013 Prepare surfaces by abrasive blasting (advanced)	<p>MEM16006 Organise and communicate information</p> <p>MEM13003 Work safely with industrial chemicals and materials</p> <p>MEM08016 Control blast coating by-products, materials and emissions</p> <p>MEM13015 Work safely and effectively in manufacturing and engineering</p> <p>MEM11011 Undertake manual handling</p> <p>MEM08012 Prepare surfaces by abrasive blasting (basic)</p>
MEM05001 Perform manual soldering/desoldering - electrical/electronic components	<p>MEM16006 Organise and communicate information</p>

	<p>MEM13015 Work safely and effectively in manufacturing and engineering</p> <p>MEM11011 Undertake manual handling</p>
MEM05091 Weld using gas metal arc welding process	<p>MEM16006 Organise and communicate information</p> <p>MEM14006 Plan work activities</p> <p>MEM05052 Apply safe welding practices</p> <p>MEM05085 Select welding processes</p> <p>MEM18002 Use power tools/hand held operations</p> <p>MEM18001 Use hand tools</p> <p>MEM05050 Perform routine gas metal arc welding</p> <p>MEM12024 Perform computations</p> <p>MEM13015 Work safely and effectively in manufacturing and engineering</p> <p>MEM11011 Undertake manual handling</p> <p>MEM12023 Perform engineering measurements</p> <p>MEM09002 Interpret technical drawing</p>
MEM06015 Hand forge complex shapes	<p>MEM16006 Organise and communicate information</p> <p>MEM06010 Perform hand forging</p> <p>MEM13015 Work safely and effectively in manufacturing and engineering</p> <p>MEM11011 Undertake manual handling</p>
MEM05050 Perform routine gas metal arc welding	<p>MEM16006 Organise and communicate information</p> <p>MEM13015 Work safely and effectively in manufacturing and engineering</p>

	MEM11011 Undertake manual handling
MEM05049 Perform routine gas tungsten arc welding	MEM16006 Organise and communicate information MEM13015 Work safely and effectively in manufacturing and engineering MEM11011 Undertake manual handling
MEM11022 Operate fixed/moveable load shifting equipment	MEM16006 Organise and communicate information MEM13015 Work safely and effectively in manufacturing and engineering MEM11011 Undertake manual handling
MEM12024 Perform computations	MEM16006 Organise and communicate information MEM13015 Work safely and effectively in manufacturing and engineering
MEM05072 Perform advanced welding using manual metal arc welding process	MEM16006 Organise and communicate information MEM05007 Perform manual heating and thermal cutting MEM05090 Weld using manual metal arc welding process MEM14006 Plan work activities MEM05052 Apply safe welding practices MEM05085 Select welding processes MEM18002 Use power tools/hand held operations MEM18001 Use hand tools MEM05012 Perform routine manual metal arc welding MEM12024 Perform computations

	<p>MEM13015 Work safely and effectively in manufacturing and engineering</p> <p>MEM11011 Undertake manual handling</p> <p>MEM12023 Perform engineering measurements</p> <p>MEM09002 Interpret technical drawing</p>
MEM08007 Control surface finish production and finished product quality	<p>MEM16006 Organise and communicate information</p> <p>MEM13015 Work safely and effectively in manufacturing and engineering</p> <p>MEM11011 Undertake manual handling</p>
MEM08012 Prepare surfaces by abrasive blasting (basic)	<p>MEM16006 Organise and communicate information</p> <p>MEM13003 Work safely with industrial chemicals and materials</p> <p>MEM08016 Control blast coating by-products, materials and emissions</p> <p>MEM13015 Work safely and effectively in manufacturing and engineering</p> <p>MEM11011 Undertake manual handling</p>
MEM18003 Use tools for precision work	<p>MEM16006 Organise and communicate information</p> <p>MEM18002 Use power tools/hand held operations</p> <p>MEM18001 Use hand tools</p> <p>MEM13015 Work safely and effectively in manufacturing and engineering</p> <p>MEM11011 Undertake manual handling</p> <p>MEM12023 Perform engineering measurements</p>

MEM05037 Perform geometric development	<p>MEM16006 Organise and communicate information</p> <p>MEM14006 Plan work activities</p> <p>MEM12024 Perform computations</p> <p>MEM13015 Work safely and effectively in manufacturing and engineering</p> <p>MEM12023 Perform engineering measurements</p> <p>MEM09002 Interpret technical drawing</p>
MEM09002 Interpret technical drawing	<p>MEM16006 Organise and communicate information</p> <p>MEM12024 Perform computations</p> <p>MEM13015 Work safely and effectively in manufacturing and engineering</p> <p>MEM12023 Perform engineering measurements</p>
MEM12023 Perform engineering measurements	<p>MEM16006 Organise and communicate information</p> <p>MEM13015 Work safely and effectively in manufacturing and engineering</p>
MEM05094 Repair, replace and/or modify fabrications	<p>MEM16006 Organise and communicate information</p> <p>MEM05007 Perform manual heating and thermal cutting</p> <p>MEM05090 Weld using manual metal arc welding process</p> <p>MEM14006 Plan work activities</p> <p>MEM05096 Weld using flux core arc welding process</p> <p>MEM05097 Weld using oxy fuel gas welding process</p>

	<p>MEM05052 Apply safe welding practices</p> <p>MEM05085 Select welding processes</p> <p>MEM05005 Carry out mechanical cutting</p> <p>MEM18002 Use power tools/hand held operations</p> <p>MEM05089 Assemble fabricated components</p> <p>MEM18001 Use hand tools</p> <p>MEM12024 Perform computations</p> <p>MEM13015 Work safely and effectively in manufacturing and engineering</p> <p>MEM05092 Weld using gas tungsten arc welding process</p> <p>MEM05091 Weld using gas metal arc welding process</p> <p>MEM11011 Undertake manual handling</p> <p>MEM12023 Perform engineering measurements</p> <p>MEM09002 Interpret technical drawing</p>
MEM16004 Perform internal/external customer service	<p>MEM16006 Organise and communicate information</p> <p>MEM13015 Work safely and effectively in manufacturing and engineering</p>
MEM08014 Apply protective coatings (basic)	<p>MEM16006 Organise and communicate information</p> <p>MEM13003 Work safely with industrial chemicals and materials</p> <p>MEM13015 Work safely and effectively in manufacturing and engineering</p> <p>MEM11011 Undertake manual handling</p>



MEM07015 Set computer controlled machines and processes	<p>MEM16006 Organise and communicate information</p> <p>MEM14006 Plan work activities</p> <p>MEM07028 Operate computer controlled machines and processes</p> <p>MEM18001 Use hand tools</p> <p>MEM12024 Perform computations</p> <p>MEM13015 Work safely and effectively in manufacturing and engineering</p> <p>MEM07005 Perform general machining</p> <p>MEM11011 Undertake manual handling</p> <p>MEM12023 Perform engineering measurements</p> <p>MEM09002 Interpret technical drawing</p>
MEM11009 Handle/move bulk fluids/gases	<p>MEM16006 Organise and communicate information</p> <p>MEM13015 Work safely and effectively in manufacturing and engineering</p> <p>MEM11011 Undertake manual handling</p>
MEM17003 Assist in the provision of on-the-job training	<p>MEM16006 Organise and communicate information</p> <p>MEM13015 Work safely and effectively in manufacturing and engineering</p>
MEM05089 Assemble fabricated components	<p>MEM16006 Organise and communicate information</p> <p>MEM05007 Perform manual heating and thermal cutting</p> <p>MEM05090 Weld using manual metal arc welding process</p> <p>MEM14006 Plan work activities</p>

	<p>MEM05097 Weld using oxy fuel gas welding process</p> <p>MEM05052 Apply safe welding practices</p> <p>MEM05085 Select welding processes</p> <p>MEM05005 Carry out mechanical cutting</p> <p>MEM18002 Use power tools/hand held operations</p> <p>MEM18001 Use hand tools</p> <p>MEM12024 Perform computations</p> <p>MEM13015 Work safely and effectively in manufacturing and engineering</p> <p>MEM05092 Weld using gas tungsten arc welding process</p> <p>MEM05091 Weld using gas metal arc welding process</p> <p>MEM11011 Undertake manual handling</p> <p>MEM12023 Perform engineering measurements</p> <p>MEM09002 Interpret technical drawing</p>
MEM05004 Perform routine oxy fuel gas welding	<p>MEM16006 Organise and communicate information</p> <p>MEM13015 Work safely and effectively in manufacturing and engineering</p> <p>MEM11011 Undertake manual handling</p>
MEM05012 Perform routine manual metal arc welding	<p>MEM16006 Organise and communicate information</p> <p>MEM13015 Work safely and effectively in manufacturing and engineering</p> <p>MEM11011 Undertake manual handling</p>

MEM11011 Undertake manual handling	MEM16006 Organise and communicate information  MEM13015 Work safely and effectively in manufacturing and engineering
MEM18002 Use power tools/hand held operations	MEM16006 Organise and communicate information  MEM13015 Work safely and effectively in manufacturing and engineering  MEM11011 Undertake manual handling
MEM07032 Use workshop machines for basic operations	MEM16006 Organise and communicate information  MEM18001 Use hand tools  MEM13015 Work safely and effectively in manufacturing and engineering  MEM11011 Undertake manual handling
MEM12025 Use graphical techniques and perform simple statistical computations	MEM16006 Organise and communicate information  MEM12024 Perform computations  MEM13015 Work safely and effectively in manufacturing and engineering
MEM06017 Perform press forging of complex shapes	MEM16006 Organise and communicate information  MEM06016 Perform press forging  MEM13015 Work safely and effectively in manufacturing and engineering  MEM11011 Undertake manual handling
MEM08019 Electroplate protective finishes	MEM16006 Organise and communicate information  MEM13003 Work safely with industrial chemicals and materials

	<p>MEM07001 Perform operational maintenance of machines/equipment</p> <p>MEM08003 Perform electroplating operations</p> <p>MEM08001 Perform wire, jig and barrel load/unload work</p> <p>MEM18001 Use hand tools</p> <p>MEM13015 Work safely and effectively in manufacturing and engineering</p> <p>MEM11011 Undertake manual handling</p>
MEM05086 Set and edit computer controlled thermal cutting machines	<p>MEM16006 Organise and communicate information</p> <p>MEM05007 Perform manual heating and thermal cutting</p> <p>MEM18001 Use hand tools</p> <p>MEM05009 Perform automated thermal cutting</p> <p>MEM13015 Work safely and effectively in manufacturing and engineering</p> <p>MEM05071 Perform advanced manual thermal cutting, gouging and shaping</p> <p>MEM16008 Interact with computing technology</p> <p>MEM11011 Undertake manual handling</p> <p>MEM12023 Perform engineering measurements</p> <p>MEM09002 Interpret technical drawing</p>

## Qualification Mapping Information

Current Code and Title	Previous Code and Title	Comments	Equivalence
------------------------	-------------------------	----------	-------------

MEM31925 Certificate III in Engineering - Fabrication Trade	MEM31922 Certificate III in Engineering - Fabrication Trade	Superseded	Equivalent
--	--	------------	------------

## Links

Companion volumes, including implementation guides, are found on the national training register - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=45a7f1d5-61a5-447a-9688-7abbd7e1a5c7>.