MEM30119 Certificate III in Engineering - Production Systems

Release 2

MEM30119 Certificate III in Engineering - Production Systems

Modification History

Release 2. Elective units updated. Supersedes and is equivalent to MEM30119 Certificate III in Engineering – Production Systems (Release 1).

Release 1. Supersedes and is equivalent to MEM30105 Certificate III in Engineering – Production Systems

Qualification Description

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

The skills associated with this qualification are intended to apply to a wide range of engineering/manufacturing work including production, distribution, stores and warehousing. It provides the skills and knowledge for a person to understand and apply quality control techniques, exercise good interpersonal and communications skills, work from complex instructions and procedures, exercise discretion within the scope of responsibility, perform work under limited supervision either individually or in a team environment, be responsible for assuring the quality of their own work, perform work which, while primarily involving the skills of the employee's qualification, is incidental or peripheral to the primary task and facilitate the completion of the whole task, inspect products and/or materials for conformity with established operational standards and assists in the provision of on-the-job training of other workers.

This qualification is designed to provide an industry recognised skills profile related to production work as an Engineering/ Manufacturing Employee - Level V. Competency development would typically be undertaken through an Australian Apprenticeships arrangement where the integration of on and off-the-job training would be specified in the Training Plan associated with the Contract of Training between the employer and trainee.

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/or materials to cover the scope of application of those units. All outcomes must reflect the standard of performance required of the work associates with the Unit/s.

This qualification is not suited and should not be used for people who are not employed in an engineering production or manufacturing environment. It is not suited and should not be used for school students unless they are formally engaged in a traineeship in accordance with the Australian Apprenticeships policy.

No licensing, legislative or certification requirements apply to this qualification at the time of publication. However, in some jurisdictions units in this qualification may relate to licensing or regulatory requirements. Local regulations should be checked.

Entry Requirements

There are no entry requirements for this qualification.

Packaging Rules

To be awarded the MEM30119 Certificate III in Engineering – Production Systems, units of competency to the value of 96 points must be achieved, chosen as outlined below:

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

Appropriate Group B elective units to the value of 16 points may be chosen from this Training Package, 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 an engineering/manufacturing environment.

Registered Training Organisations (RTOs) must seek a determination from the industry parties in respect of the allocation of points 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 points 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 qualification.

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	*

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Unit code	Unit title	Points	Prerequisites
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

Group A - Production stream units

Unit code	Unit title	Points	Prerequisites
CPCCLDG3001	Licence to perform dogging	0	
CPCCLRG3001	Licence to perform rigging basic level	0	*
CPCCLSF2001	Licence to erect, alter and dismantle scaffolding basic level	0	
CPCCLSF3001	Licence to erect, alter and dismantle scaffolding intermediate level	0	*
MEM03001	Perform manual production assembly	4	*
MEM03002	Perform precision assembly	4	*
MEM03003	Perform sheet and plate assembly	4	*
MEM03004	Perform electronic/electrical assembly (production)	8	*
MEM03005	Rework and repair (electrical/electronic production)	8	*
MEM03006	Set assembly stations	2	*
MEM04001	Operate melting furnaces	4	*
MEM04002	Perform gravity die casting	2	*
MEM04003	Operate pressure die casting machine	4	*

Unit code	Unit title	Points	Prerequisites
MEM04004	Prepare and mix sand for metal moulding	4	*
MEM04006	Operate sand moulding and core making machines	8	*
MEM05001	Perform manual soldering/desoldering - electrical/electronic components	4	*
MEM05002	Perform high reliability soldering and desoldering	4	*
MEM05003	Perform soft soldering	2	*
MEM05027	Perform aluminothermic welding	2	*
MEM06001	Perform hand forging	4	*
MEM06003	Carry out heat treatment	6	*
MEM06006	Repair springs	4	*
MEM07001	Perform operational maintenance of machines/equipment	2	*
MEM07003	Perform routine machine setting	4	*
MEM07004	Perform complex machine setting	8	*
MEM07024	Operate and monitor machine and process	4	*
MEM07025	Perform advanced machine and process operation	6	*
MEM07026	Perform advanced plastic processing	6	*
MEM07027	Perform advanced press operations	6	*
MEM07028	Operate computer controlled machines and processes	2	*
MEM07042	Undertake corrections and basic maintenance to aluminium extrusion dies and die support systems	4	*
MEM07043	Identify causes of faulty aluminium extrusions	6	*
MEM07044	Test a new aluminium extrusion die	4	*
MEM08001	Perform wire, jig and barrel load/unload work	4	*
MEM08002	Pre-treat work for subsequent surface coating	4	*

Unit code	Unit title	Points	Prerequisites
MEM08003	Perform electroplating operations	6	*
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	*
MEM11001	Erect/dismantle scaffolding and equipment	4	*
MEM11002	Erect/dismantle intermediate scaffolding and equipment	4	*
MEM11003	Coordinate erection/dismantling of complex scaffolding/equipment	4	*
MEM11004	Undertake dogging	4	*
MEM11005	Pick and process order	4	*

Unit code	Unit title	Points	Prerequisites
MEM11006	Perform production packaging	2	*
MEM11007	Administer inventory procedures	4	*
MEM11008	Package materials (stores and warehouse)	2	*
MEM11009	Handle/move bulk fluids/gases	4	*
MEM11010	Operate mobile load shifting equipment	4	*
MEM11012	Purchase materials	6	*
MEM11013	Undertake warehouse receival process	4	*
MEM11014	Undertake warehouse dispatch process	4	*
MEM11015	Manage warehouse inventory system	6	*
MEM11016	Order materials	2	*
MEM11017	Organise and lead stocktakes	4	*
MEM11018	Organise and maintain warehouse stock receival and dispatch system	6	*
MEM11019	Undertake tool store procedures	4	*
MEM11020	Perform advanced warehouse computer operations	4	*
MEM11021	Perform advanced operation of load shifting equipment	2	*
MEM11022	Operate fixed/moveable load shifting equipment	4	*
MEM11023	Operate a bridge and gantry crane	4	*
MEM11024	Undertake basic rigging	4	*
MEM11025	Operate a non-slewing mobile crane of greater than three tonnes capacity	4	*
MEM12001	Use comparison and basic measuring devices	2	*
MEM12002	Perform electrical/electronic measurement	2	*
MEM12019	Measure components using coordinate measuring machines	4	*

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Unit code	Unit title	Points	Prerequisites
MEM13003	Work safely with industrial chemicals and materials	2	*
MEM13004	Work safely with molten metals/glass	2	*
MEM15001	Perform basic statistical quality control	2	*
MEM15003	Use improvement processes in team activities	4	*
MEM15004	Perform inspection	2	*
MEM15005	Select and control inspection processes and procedures	4	*
MEM18003	Use tools for precision work	4	*
MEM18098	Prepare to perform work associated with fuel system installation and servicing	2	*
TLILIC0003	Licence to operate a forklift truck	0	
TLILIC0004	Licence to operate an order picking forklift truck	0	
TLILIC0016	Licence to operate a bridge and gantry crane	0	
TLILIC0024	Licence to operate a vehicle loading crane (capacity 10 metre tonnes and above)	1	
TLILIC0040	Licence to operate a non-slewing mobile crane (greater than 3 tonnes capacity)	0	

Group B

Unit code	Unit title	Points	Prerequisites
CPCCLDG3001	Licence to perform dogging	0	
CPCCLRG3001	Licence to perform rigging basic level	0	*
CPCCLSF2001	Licence to erect, alter and dismantle scaffolding basic level	0	
CPCCLSF3001	Licence to erect, alter and dismantle scaffolding intermediate level	0	*

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Unit code	Unit title	Points	Prerequisites
MEM03001	Perform manual production assembly	4	*
MEM03002	Perform precision assembly	4	*
MEM03003	Perform sheet and plate assembly	4	*
MEM03004	Perform electronic/electrical assembly (production)	8	*
MEM03005	Rework and repair (electrical/electronic production)	8	*
MEM03006	Set assembly stations	2	*
MEM04001	Operate melting furnaces	4	*
MEM04002	Perform gravity die casting	2	*
MEM04003	Operate pressure die casting machine	4	*
MEM04004	Prepare and mix sand for metal moulding	4	*
MEM04006	Operate sand moulding and core making machines	8	*
MEM04007	Pour molten metal	4	*
MEM04008	Fettle and trim metal castings/forgings	4	*
MEM04018	Perform general woodworking machine operations	4	*
MEM04019	Perform refractory installation and repair	4	*
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	*

Unit code	Unit title	Points	Prerequisites
MEM05012	Perform routine manual metal arc welding	2	*
MEM05013	Perform manual production 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	*
MEM05085	Select welding processes	2	*
MEM05086	Set and edit computer controlled thermal cutting machines	4	*
MEM05095	Weld using flame powder spraying	4	*
MEM05097	Weld using oxy fuel gas welding process	4	*
MEM06001	Perform hand forging	4	*
MEM06003	Carry out heat treatment	6	*
MEM06007	Perform basic incidental heat/quenching, tempering and annealing	2	*
MEM07001	Perform operational maintenance of machines/equipment	2	*
MEM07003	Perform routine machine setting	4	*
MEM07004	Perform complex machine setting	8	*
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	*
MEM07025	Perform advanced machine and process operation	6	*
MEM07026	Perform advanced plastic processing	6	*
MEM07027	Perform advanced press operations	6	*

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Unit code	Unit title	Points	Prerequisites
MEM07028	Operate computer controlled machines and processes	2	*
MEM07029	Perform routine sharpening and maintenance of production tools and cutters	4	*
MEM07030	Perform basic metal spinning lathe operations	8	*
MEM07031	Perform complex metal spinning lathe operations	4	*
MEM07032	Use workshop machines for basic operations	2	*
MEM07033	Operate and monitor basic boiler	6	*
MEM07040	Set multistage integrated processes	6	*
MEM07041	Perform production machining	8	*
MEM07042	Undertake corrections and basic maintenance to aluminium extrusion dies and die support systems	4	*
MEM07043	Identify causes of faulty aluminium extrusions	6	*
MEM07044	Test a new aluminium extrusion die	4	*
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	*

Unit code	Unit title	Points	Prerequisites
MEM08011	Prepare surfaces using solvents and/or mechanical means	2	*
MEM08012	Prepare surfaces by abrasive blasting (basic)	4	*
MEM10002	Terminate and connect electrical wiring	3	*
MEM10004	Enter and change programmable controller operational parameters	2	*
MEM10011	Terminate and connect specialist cables	3	*
MEM10013	Install split air conditioning systems and associated pipework	6	*
MEM11001	Erect/dismantle scaffolding and equipment	4	*
MEM11002	Erect/dismantle intermediate scaffolding and equipment	4	*
MEM11003	Coordinate erection/dismantling of complex scaffolding/equipment	4	*
MEM11004	Undertake dogging	4	*
MEM11005	Pick and process order	4	*
MEM11006	Perform production packaging	2	*
MEM11007	Administer inventory procedures	4	*
MEM11008	Package materials (stores and warehouse)	2	*
MEM11009	Handle/move bulk fluids/gases	4	*
MEM11010	Operate mobile load shifting equipment	4	*
MEM11012	Purchase materials	6	*
MEM11013	Undertake warehouse receival process	4	*
MEM11014	Undertake warehouse dispatch process	4	*
MEM11015	Manage warehouse inventory system	6	*
MEM11016	Order materials	2	*
MEM11017	Organise and lead stocktakes	4	*

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Unit code	Unit title	Points	Prerequisites
MEM11018	Organise and maintain warehouse stock receival and dispatch system	6	*
MEM11019	Undertake tool store procedures	4	*
MEM11020	Perform advanced warehouse computer operations	4	*
MEM11021	Perform advanced operation of load shifting equipment	2	*
MEM11022	Operate fixed/moveable load shifting equipment	4	*
MEM11023	Operate a bridge and gantry crane	4	*
MEM11024	Undertake basic rigging	4	*
MEM11025	Operate a non-slewing mobile crane of greater than three tonnes capacity	4	*
MEM12001	Use comparison and basic measuring devices	2	*
MEM12002	Perform electrical/electronic measurement	2	*
MEM12019	Measure components using coordinate measuring machines	4	*
MEM12020	Set and operate coordinate measuring machines	2	*
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	*
MEM13004	Work safely with molten metals/glass	2	*
MEM13018	Work safely with ionizing radiation	4	
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	*

Unit code	Unit title	Points	Prerequisites
MEM15005	Select and control inspection processes and procedures	4	*
MEM16004	Perform internal/external customer service	2	*
MEM16005	Operate as a team member to conduct manufacturing, engineering or related activities	2	*
MEM18055	Dismantle, replace and assemble engineering components	3	*
MEM18063	Terminate signal and data cables	4	*
MEM18071	Connect and disconnect fluid conveying system components	2	*
MEM18072	Manufacture fluid conveying conductor assemblies	4	*
MEM18083	Handle fluorocarbon refrigerants according to regulations	1	*
MEM18084	Commission and decommission split air conditioning systems	4	*
MEM18086	Test, recover, evacuate and charge refrigeration systems	4	*
MEM18098	Prepare to perform work associated with fuel system installation and servicing	2	*
MEM24001	Perform basic penetrant testing	2	*
MEM24003	Perform basic magnetic particle testing	2	*
MSMENV472	Implement and monitor environmentally sustainable work practices	4	
PMBPROD391E	Produce composites using resin infusion	4	
PMBPROD394E	Produce composites using resin transfer moulding	4	
PMBPROD398E	Produce composites using prepregs	4	
TLILIC0003	Licence to operate a forklift truck	0	

Unit code	Unit title	Points	Prerequisites
TLILIC0004	Licence to operate an order picking forklift truck	0	
TLILIC0016	Licence to operate a bridge and gantry crane	0	
TLILIC0024	Licence to operate a vehicle loading crane (capacity 10 metre tonnes and above)	1	
TLILIC0040	Licence to operate a non-slewing mobile crane (greater than 3 tonnes capacity)	0	

Qualification Mapping Information

Release 2. Supersedes and is equivalent to MEM30119 Certificate III in Engineering – Production Systems (Release 1).

Release 1. Supersedes and is equivalent to MEM30105 Certificate III in Engineering – Production Systems

Links

Companion Volume Implementation Guides are available on VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b7050d37-5fd0-4740-8f7d-3b7a49c10bb2