



**Australian Government**

# **MSM40116 Certificate IV in Process Manufacturing**

**Release 1**

## **MSM40116 Certificate IV in Process Manufacturing**

### **Modification History**

Release 1. Units updated. Supersedes and is equivalent to MSA40311 Certificate IV in Process Manufacturing.

### **Qualification Description**

The MSM40116 Certificate IV in Process Manufacturing provides the competencies required by advanced production workers who use a range of equipment and are involved in solving complex problems that require theoretical knowledge, combined with an understanding of operating procedures directly related to producing products.

This qualification is typically used to develop employees performing a technical role that includes the ability to work independently and conduct technical problem solving according to the needs of the work required to produce products.

This qualification is designed to develop employees who operate across more than one category within process manufacturing or other product conversion processes in manufacturing. Typical applications would be in chemical, hydrocarbons, refining, minerals processing, plastics, rubber, cabling, manufactured mineral products, and other areas as appropriate.

Non-technical team leaders, coordinators and supervisors may be better served by a qualification in competitive manufacturing. Qualification pathways from this qualification include MSM50316 Diploma of Production Management and MSS50312 Diploma of Competitive Systems and Practices.

### **Entry Requirements**

There are no entry requirements for this qualification.

## Packaging Rules

To be awarded the MSM40116 Certificate IV in Process Manufacturing competency must be achieved in a total of **twenty-six (26)** units of competency.

- **five (5)** core units of competency
- **twenty-one (21)** elective units of competency, as specified below:
  - a minimum of **four (4)** units from **Group A**
  - the balance of units, to a maximum of **seventeen (17)** may be selected from Groups A, B and C (with a maximum of **eleven (11)** units from Group C).

**Note:** Up to **nine (9)** elective units may be selected from this Training Package, other endorsed Training Packages and accredited courses, as specified below.

**Note:** Where prerequisite units are identified they must be counted in the total number of units required for achievement of the qualification.

### Core units

Unit code	Unit title	
MSMENV272	Participate in environmentally sustainable work practices	
MSMSUP200	Achieve work outcomes	
MSMSUP210	Process and record information	
MSMWHS200	Work safely	
MSS402051A	Apply quality standards	
<b>ELECTIVE UNITS</b>		
<b>Group A Elective units</b>		
Unit code	Unit title	Prerequisites
MEM15001B	Perform basic statistical quality control	

MSL974003	Perform chemical tests and procedures	
MSMENV472	Implement and monitor environmentally sustainable work practices	
MSMOPS400	Optimise process/plant area	
MSMOPS401	Trial new process or product	
MSMPER400	Coordinate permit process	MSMPER300
MSMSUP400	Develop and monitor quality systems	
MSMSUP404	Coordinate maintenance	
MSMSUP405	Identify problems in fluid power system	
MSMSUP406	Identify problems in electronic control systems	
MSMWHS400	Contribute to WHS management system	
MSMWHS401	Assess risk	
MSS403002A	Ensure process improvements are sustained	
MSS403010A	Facilitate change in an organisation implementing competitive systems and practices	
MSS403011A	Facilitate implementation of competitive systems and practices	
MSS403013A	Lead team culture improvement	
MSS403021A	Facilitate a Just in Time system	
MSS403030A	Improve cost factors in work practices	
MSS403040A	Facilitate and improve implementation of 5S	
MSS403041A	Facilitate breakthrough improvements	
MSS403051A	Mistake proof an operational process	
MSS404050A	Undertake process capability improvements	MSS404052A
MSS404052A	Apply statistics to operational processes	
MSS404060A	Facilitate the use of planning software systems	

	in a work area or team	
MSS404081A	Undertake proactive maintenance analyses	
MSS404082A	Assist in implementing a proactive maintenance strategy	
PMAWHS420	Develop first aid procedures and manage resources	
PMAOMIR407	Audit incident preparedness and established response systems	
PMAOMIR418	Coordinate incident response	
PMAOMIR424	Develop and maintain community relationships	
PMAOMIR430	Conduct and assess incident exercises	
PMAOMIR444	Develop incident containment tactics	
PMAOMIR449	Monitor legal compliance obligations during incidents	
PMAOPS402	Respond to abnormal process situations	
PMAOPS405A	Operate complex control systems	
PMAOPS410	Monitor remote production facilities	
PMAOPS411	Manage plant shutdown and restart	
PMAOPS433	Manage wells and gathering systems	
PMAOPS434	Commission wells and gathering systems	
PMAOPS450	Solve colour problems	
PMAOPS460	Monitor and operate tailings management facilities	
PMASUP410	Develop plant documentation	
PMASUP420	Minimise environmental impact of process	
PMASUP432	Coordinate pipeline projects	
PMASUP440	Commission/recommission plant	
PMASUP441	Decommission plant	

PMASUP444	Plan plant preparation and isolation	
PMASUP445	Participate in HAZOP studies	PMAOPS280
PMBPROD430B	Trial a new die/tool	
PMBPROD431B	Trial a new, advanced or complex mould	
PMBTECH401B	Predict polymer properties and characteristics	PMBTECH301B
PMBTECH402B	Set advanced or complex dies	PMBPREP304C
PMBTECH403B	Test fibre-composites materials and laminates	
PMBTECH404B	Mould chemical resistant and/or fire retardant fibre-composites	PMBPROD347B OR PMBPROD380B
PMBTECH405B	Repair damaged fibre-composites structures	
PMBTECH406A	Diagnose production equipment problems	
PMC554020D	Design and prepare models, moulds and dies	
PMC554090B	Undertake simple refractory design	
PMC554091B	Analyse refractory failures	
PSPPM402B	Manage simple projects	
<p>A maximum of <b>two (2)</b> relevant units may be selected from this Training Package, other endorsed Training Packages and accredited courses, where those units are packaged in a Certificate IV or Diploma.</p> <p><b>Group B Elective units</b></p>		
<b>Unit code</b>	<b>Unit title</b>	<b>Prerequisites</b>
MEM03001B	Perform manual production assembly	
MEM03006B	Set assembly stations	
MEM09002B	Interpret technical drawing	
MEM09204A	Produce basic engineering detail drawings	MEM09002B

MEM11005B	Pick and process order	
MEM11006B	Perform production packaging	
MEM11007B	Administer inventory procedures	
MEM12023A	Perform engineering measurements	
MEM15001B	Perform basic statistical quality control	
MEM15003B	Use improvement processes in team activities	
MEM15004B	Perform inspection	
MSL973001	Perform basic tests	
MSMOPS301	Treat corrosion	
MSMOPS363	Organise on site work	
MSMPER300	Issue work permits	MSMWHS201
MSMSUP300	Identify and apply process improvements	
MSMSUP301	Apply HACCP to the workplace	
MSMSUP303	Identify equipment faults	
MSMSUP309	Maintain and organise workplace records	
MSMSUP310	Contribute to the development of plant documentation	
MSMSUP330	Develop and adjust a production schedule	
MSMSUP382	Provide coaching/mentoring in the workplace	
MSMSUP383	Facilitate a team	
MSMSUP390	Use structured problem solving tools	
MSMWHS300	Facilitate the implementation of WHS for a work group	
PMBPREP304C	Set a die	
PMBPROD347B	Produce composites using hand lamination	PMBPROD247C
PMBPROD380B	Produce composites using chopper/gun	PMBPROD280B

	depositor	
PMBTECH301B	Use materials and process knowledge to solve problems	
TAEDEL301	Provide work skill instruction	
<p>Group B units may also be chosen from the Group A and Group B units in the PMA and PMB Certificates III and Group A and Group B1 units in the PMC Certificate III.</p> <p>A maximum of <b>four (4)</b> relevant units may be selected from this Training Package, other endorsed Training Packages and accredited courses, where those units are packaged in a Certificate III or IV.</p> <p><b>Group C Elective units</b></p>		
Unit code	Unit title	Prerequisites
FWPCOT2238	Cut materials with a hand-held chainsaw	
HLTAID003	Provide first aid	
LMTGN2008B	Coordinate work of team/section	
MEM13003B	Work safely with industrial chemicals and materials	
MEM16006A	Organise and communicate information	
MEM16007A	Work with others in a manufacturing, engineering or related environment	
MEM16008A	Interact with computing technology	
MEM18001C	Use hand tools	
MEM18002B	Use power tools/hand held operations	
MSMENV172	Identify and minimise environmental hazards	
MSMOPS100	Use equipment	
MSMOPS101	Make measurements	



MSMOPS102	Perform tasks to support production	
MSMOPS200	Operate equipment	
MSMOPS201	Cut polymer materials	
MSMOPS202	Fabricate polymer materials	
MSMOPS212	Use enterprise computers or data systems	
MSMOPS244	Layout and cut materials	
MSMPER200	Work in accordance with an issued permit	
MSMPER201	Monitor and control work permits	
MSMPER202	Observe permit work	
MSMPER205	Enter confined space	MSMPER200
MSMSUP100	Apply workplace context to own job	
MSMSUP101	Clean workplace or equipment	
MSMSUP106	Work in a team	
MSMSUP200	Achieve work outcomes	
MSMSUP204	Pack products or materials	
MSMSUP205	Transfer loads	
MSMSUP230	Monitor process operations	
MSMSUP240	Undertake minor maintenance	
MSMSUP273	Handle goods	
MSMSUP280	Manage conflict at work	
MSMSUP291	Participate in continuous improvement	
MSMSUP292	Sample and test materials and product	
MSMWHS100	Follow WHS procedures	
MSMWHS110	Follow emergency response procedures	
MSMWHS201	Conduct hazard analysis	

MSMWHS205	Control minor incidents	
MSMWHS210	Undertake first response to non-fire incidents	
MSMWHS212	Undertake first response to fire incidents	
MSMWHS216	Operate breathing apparatus	
MSMWHS217	Gas test atmospheres	
MSMWHS218	Control the risks of falls	
MSS402002A	Sustain process improvements	
MSS402020A	Apply quick changeover procedures	
MSS402021A	Apply Just in Time (JIT) procedures	
MSS402030A	Apply cost factors to work practices	
MSS402040A	Apply 5S procedures	
MSS402050A	Monitor process capability	
MSS402051A	Apply quality standards	
MSS402060A	Use planning software systems in operations	
MSS402080A	Undertake root cause analysis	
PMAOPS280	Interpret process plant schematics	
PMBHAN103C	Shift materials safely by hand	
PMBPROD247C	Hand lay up composites	
PMBPROD280B	Operate resin-glass depositor equipment	
TLID2010	Operate a forklift	

Group C units may also be chosen from the Group C units in the PMA and PMB Certificates III and Group B2 units in the PMC Certificate III.

A maximum of **three (3)** relevant units may be selected from this Training Package, other endorsed Training Packages and accredited courses, where they are packaged in a Certificate II, III or IV.

## **Qualification Mapping Information**

Release 1. Supersedes and is equivalent to MSA40311 Certificate IV in Process Manufacturing.

## **Links**

MSA Training Package Implementation Guides -  
[http://companion\\_volumes.vetnet.education.gov.au/Pages/TrainingPackage.aspx?pid=29](http://companion_volumes.vetnet.education.gov.au/Pages/TrainingPackage.aspx?pid=29)