

Workforce Skills Qualifications System (WSQ)

Revised Competency Map and Qualification Matrix for GENERIC MANUFACTURING SKILLS (GMS)

Framework	Sub-Sectors	Qualification Levels		
The Generic Manufacturing Skills (GMS) WSQ framework aims to raise the professionalism of the manufacturing industry by equipping the workforce with essential generic and portable skills to adapt and be resilient to challenges in the dynamic working environment. It allows employers to access a pipeline of skilled workforce, which provides a competitive advantage and enables organisation success. It also equips workers with cross-cutting generic manufacturing skills to effectively contribute and progress within an organisation as well as promote mobility across manufacturing companies.	Productivity Innovation Skills, Logistics, Precision, Integration, Automation, Process, Food Manufacturing	Managerial Supervisory Operations	WSQ Level 4 WSQ Level 3 WSQ Level 1-2	Diploma Advanced Certificate Certificate/ Higher Certificate

Sub-Sectors	Competency Categories	Operations			Supervisory			Managerial		
PRODUCTIVITY INNOVATION SKILLS <u>Descriptor</u> Develops generic skills to enable individuals to effectively perform job roles to acceptable workplace standards and contribute to organisation's productivity and efficiency. The skills cover areas such as productivity, innovation, teamwork, and workplace safety and health.	Productivity & Innovation	CU Codes	CU Titles	CV	CU Codes	CU Titles	CV	CU Codes	CU Titles	CV
		MF-COM-101C-2	Apply 5S Techniques *	2 CV	MF-COM-304C-1	Implement Good Documentation Practices	1 CV	MF-COM-403C-1	Manage Process Improvement *	2 CV
		MF-COM-101E-1	Follow Good Manufacturing Practices *	1 CV	MF-COM-303E-1	Supervise Work Improvement Processes *	2 CV	MF-PIM-401C-1	Implement Business Process Reengineering *	3 CV
		MF-COM-102E-1	Apply Continuous Process Improvement Techniques *	1 CV	MF-COM-306E-1	Supervise Safe Lifting Operations *	3 CV	MF-PIM-401E-1	Implement Lean Six Sigma *	3 CV
		MF-COM-103E-1	Perform rigger and signalman tasks *	2 CV	MF-PIM-301E-0	Apply Flow and Pull Systems in the Workplace	TBA	MF-PIM-402E-1	Manage Productivity Improvement to Achieve Business Objectives	1 CV
		MF-COM-105E-1	Operate Boom Lift *	1 CV	MF-PIM-302E-0	Supervise Quick Change Over	TBA	MF-PIM-403E-1	Plan & Implement Productivity Framework	1 CV
	Quality Systems	MF-COM-106E-1	Operate Scissor Lift *	1 CV	MF-PIM-303E-0	Supervise Total Productive Maintenance	TBA	MF-PIM-404E-1	Manage Enterprise Productivity Improvement Methodology	3 CV
		MF-COM-107E-1	Operate Vertical Personnel Platform *	1 CV	MF-PIM-304E-0	Implement Hoshin Kanri-Policy Development	TBA	MF-PIM-405E-1	Apply Guided Innovation and Improvement Method	2 CV
		MF-PIM-102E-1	Perform Basic Productivity Practices *	2 CV	MF-PIM-305E-0	Implement Layout Optimisation - 3P	TBA	MF-PIM-406E-1	Practice Innovation in the Manufacturing Environment	2 CV
		MF-PIM-201E-2	Apply Lean Thinking in the Workplace *	3 CV	MF-COM-301C-1	Supervise Quality Procedures *	2 CV	MF-PIM-407E-1	Apply Innovation Management Techniques	2 CV
	Teamwork	MF-PIM-202E-1	Apply Innovation In the Workplace *	2 CV	MF-COM-304E-1	Conduct Internal Audit on Management System	1 CV	MF-PIM-408E-1	Develop Successful Innovation Projects	2 CV
		MF-PIM-203E-2	Apply Basic Lean Techniques in the Workplace *	6 CV	MF-COM-305E-1	Apply ISO 9001 Quality Management System (QMS) to audit requirements	1 CV	MF-COM-401C-1	Manage Quality System and Processes *	4 CV
		MF-COM-102C-1	Apply Quality Systems *	2 CV	MF-QSA-301E-1	Apply Root Cause Analysis (RCA) *	2 CV	MF-COM-402C-1	Apply Project Management Skills *	3 CV
	WSH	MF-COM-103C-1	Apply Teamwork in the Workplace *	2 CV	MF-QSA-302E-1	Apply Failure Mode & Effect Analysis Techniques (FMEA) *	2 CV	MF-COM-404C-1	Apply Management Level Planning Skills *	1 CV
		MF-COM-104E-1	Apply WSH Policy *	2 CV	MF-MEX-301E-1	Implement Sustainable Manufacturing *	2 CV	MF-COM-402E-1	Develop a Risk Management Implementation Plan *	2 CV
					MF-COM-303C-1	Supervise Teams at Work *	2 CV	MF-COM-403E-1	Develop a Workplace Safety and Health Management System (WSHMS) Implementation Plan *	3 CV
					MF-COM-301E-1	Supervise Workplace Safety and Health Practices *	2 CV			

Notes:

* SC/SAP available

RLAH – Recommended Learning & Assessment Hours

CV – Credit Values

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		CU Codes	CU Titles	CV	CU Codes	CU Titles	CV	CU Codes	CU Titles	CV
MANUFACTURING SECTORAL SKILLS <u>Descriptor</u> Introduces portable cross-cutting skills relevant to various clusters of manufacturing such as logistics, precision, integration, automation, process, and food manufacturing.	Logistics & SCM	MF-LOG-101E-1	Perform Stock Control and Housekeeping Operations *	1 CV	MF-LOG-301E-0	Perform Purchasing Operations	TBC	MF-LSC-401C-1	Manage Strategic Resources	3 CV
		MF-LOG-102E-1	Perform Warehouse Operations *	2 CV	MF-LOG-302E-0	Plan and Supervise Stock Take	TBC	MF-LSC-402C-1	Perform Master Planning of Resources	3 CV
		MF-LOG-103E-1	Perform Delivery Operations *	2 CV	MF-LOG-303E-0	Plan and Manage Inventory	TBC	MF-LSC-403C-1	Develop Detailed Scheduling & Planning	3 CV
		MF-LOG-106E-2	Operate Forklift	3 CV	MF-LOG-304E-0	Supervise Warehouse Operations	TBC	MF-LSC-404C-1	Perform Execution & Control of Operations	3 CV
		MF-LOG-107E-1	Operate Lorry Crane *	2 CV	MF-LOG-301S-0	Purchase Goods and Services	TBC	MF-LSC-405C-1	Apply Techniques in Supply Chain Management	3 CV
	Precision	MF-PEC-101E-1	Use Hand Tools *	2 CV	MF-INT-302E-1	Perform Basic Programming Interface on Electronic Devices	3 CV	MF-LSC-406C-1	Develop Supply Chain Professional Skills	5 CV
		MF-PEC-102E-1	Operate Basic Measuring Devices *	2 CV	MF-INT-303E-1	Perform Computer Aided PCB Designing	3 CV			
		MF-PEC-103E-1	Interpret Production Plans	2 CV	MF-INT-304E-1	Apply Electronic Circuits Diagnostic Skills	3 CV			
	Integration	MF-INT-101E-1	Use Basic Hand Tools and Equipment *	2 CV	MF-AUT-301C-1	Apply Basic Engineering Mathematics at Work	2 CV			
		MF-INT-102E-1	Operate Electrical Measurement Devices *	2 CV	MF-AUT-301E-1	Perform PLC Programming	4 CV			
	Automation	MF-AUT-104E-1	Perform Adjustment and Measurement on Automation Devices	2 CV	MF-AUT-302E-1	Apply Control Circuits Diagnostic Skills	2 CV			
		MF-AUT-103E-1	Apply Autonomous Maintenance Techniques (AMT)	2 CV	MF-FM-301E-1	Implement Advanced Food Hygiene Practices	2 CV			
		MF-FM-101E-1	Apply Hygiene and Safety Practices in Food Manufacturing	2 CV	MF-FM-303E-1	Implement Hazard Analysis Critical Control Point (HACCP) for Food Manufacturing	2 CV			
	Food Manufacturing	MF-FM-102E-0	Apply Packaging Techniques in Food Manufacturing	TBC	MF-FM-302E-1	Implement Good Manufacturing Practices (GMP) for Food Manufacturing	2 CV			
		PI-PRO-104E-1	Perform basic maintenance works	2 CV	MF-FM-304E-1	Conduct Food Safety Internal Audit for HACCP and GMP	2 CV			
		PI-PRO-105E-1	Perform fitting works in workshop	2 CV	MF-FM-305E-1	Apply Packaging Materials and Technology in Food Packages	2 CV			
	Process									

Notes:

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CV – Credit Values

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Revised Competency Map and Qualification Matrix for **GENERIC MANUFACTURING SKILLS (GMS)**

Qual Level	Qualification Name	Qual Structure & CVs	Competency Standards		Qual Approval Date by WSQ TG (if qual was developed before WSQ TG formation, to indicate 'NA')
			Core Modules	Elective Modules	
Certificate	1. WSQ Certificate in Generic Manufacturing Skills	3 Core + 2 Electives 10 CVs	Apply 5S Techniques (MF-COM-101C-2) Apply Quality System (MF-COM-102C-1) Apply Teamwork in the Workplace (MF-COM-103C-1)	Use Hand Tools (MF-PEC-101E-1) Operate Basic Measuring Devices (MF-PEC-102E-1)	NA
	2. WSQ Certificate in Generic Manufacturing Skills (Logistics)	3 Core + 2 Electives 9 CVs	Apply 5S Techniques (MF-COM-101C-2) Apply Quality System (MF-COM-102C-1) Apply Teamwork in the Workplace (MF-COM-103C-1)	Perform Stock Control and Housekeeping Operations (MF-LOG-101E-1) Perform Warehouse Operations (MF-LOG-102E-1)	NA
	3. WSQ Certificate in Generic Manufacturing Skills (Process)	3 Core + 2 Electives 9 CVs	Apply teamwork in the workplace (MF-PRO-101C-1) Apply 5S Techniques in the workplace (MF-PRO-101E-1) Apply workplace safety and health practices (MF-PRO-102C-1)	Perform fitting works in workshop (PI-PRO-105E-1) Perform basic maintenance works (PI-PRO-104E-1)	NA
	4. WSQ Certificate in Generic Manufacturing Skills (Food Manufacturing)	3 Core + 3 Electives Min 9 CVs	Apply 5S Techniques (MF-COM-101C-2) Apply Quality System (MF-COM-102C-1) Apply Teamwork in the Workplace (MF-COM-103C-1)	Apply Hygiene and Safety Practices in Food Manufacturing (MF-FM-101E-1) Apply Packaging Techniques in Food Manufacturing (MF-FM-102E-0) Apply WSH Policy (MF-COM-104E-1)	3 December 2010
	5. WSQ Certificate in Generic Manufacturing Skills (Integration)	3 Core + 2 Electives 10 CVs	Apply 5S Techniques (MF-COM-101C-2) Apply Quality System (MF-COM-102C-1) Apply Teamwork in the Workplace (MF-COM-103C-1)	Operate Electrical Measurement Devices (MF-INT-102E-1) Use Basic Hand Tools and Equipment (MF-INT-101E-1)	NA
	6. WSQ Certificate in Generic Manufacturing Skills (Automation)	3 Core + 2 Electives 10 CVs	Apply 5S Techniques (MF-COM-101C-2) Apply Quality System (MF-COM-102C-1) Apply Teamwork in the Workplace (MF-COM-103C-1)	Perform Adjustment and Measurement on Automation Devices (MF-AUT-101E-1) Apply Autonomous Maintenance Techniques (AMT) (MF-AUT-102E-1)	18 April 2012
	7. WSQ Certified Operations Specialist	3 Core + 1 Electives 10 CVs	Apply 5S Techniques (MF-COM-101C-2) Apply Quality System (MF-COM-102C-1) Apply Teamwork in the Workplace (MF-COM-103C-1)	Apply WSH Policy (MF-COM-104E-1)	NA
	8. WSQ Certified Productivity and Innovation Specialist	3 Core + 2 Electives 10 CVs	Apply Continuous Process Improvement Techniques (MF-COM-102E-1) Apply 5S Techniques (MF-COM-101C-2) Apply Quality System (MF-COM-102C-1)	Perform Basic Productivity Practices (MF-PIM-102E-1) Apply Innovation in the Workplace (MF-PIM-202E-1)	16 July 2010
Higher Certificate	9. WSQ Certified Productivity and Innovation Specialist (Lean Management)	3 Core + 2 Electives 16 CVs	Apply 5S Techniques (MF-COM-101C-2) Apply Quality System (MF-COM-102C-1) Apply Teamwork in the Workplace (MF-COM-103C-1)	Apply Basic Lean Techniques In The Workplace (MF-PIM-203E-1) Apply LEAN Thinking in the work place (MF-PIM-201E-1)	13 August 2010
Advanced Certificate	10. WSQ Advanced Certificate in Generic Manufacturing Skills (Logistics)	3 Core + 5 Electives Min 15 CVs	Supervise Teams at Work (MF-COM-303C-1) Supervise Work Improvement Processes (MF-COM-303E-1) Supervise Quality Procedures (MF-COM-301C-1)	Perform Purchasing Operations (MF-LOG-301E-0) Plan and Supervise Stock Take (MF-LOG-302E-0) Plan and Manage Inventory (MF-LOG-303E-0) Supervise Warehouse Operations (MF-LOG-304E-0) Purchase Goods and Services (MF-LOG-301S-0)	NA
	11. WSQ Advanced Certificate in Generic Manufacturing Skills (Food Manufacturing)	3 Core + 5 Electives Min 16 CVs	Supervise Teams at Work (MF-COM-303C-1) Supervise Work Improvement Processes (MF-COM-303E-1) Supervise Quality Procedures (MF-COM-301C-1)	Implement Advanced Food Hygiene Practices (MF-FM-301E-1) Implement Hazard Analysis Critical Control Point (HACCP) for Food Manufacturing (MF-FM-303E-1) Implement Good Manufacturing Practices (GMP) for Food Manufacturing (MF-FM-302E-1) Conduct Food Safety Internal Audit for HACCP and GMP (MF-FM-304E-1) Apply Packaging Materials and Technology in Food Packages (MF-FM-305E-1) Supervise Workplace Safety and Health Practices (MF-COM-301E-1)	3 December 2010

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			Core Modules	Elective Modules	
Advanced Certificate (Cont)	12. WSQ Advanced Certificate in Generic Manufacturing Skills (Integration)	5 Core + 2 Electives 15 CVs	Supervise Teams at Work (MF-COM-303C-1) Supervise Work Improvement Processes (MF-COM-303E-1) Supervise Quality Procedures (MF-COM-301C-1) Implement Good Documentation Practices (MF-COM-304C-0) Apply Basic Engineering Mathematics at Work (MF-AUT301C-0)	Perform Basic Programming Interface on Electronic Devices (MF-INT-302E-0) Perform Computer Aided PCB Designing (MF-INT-303E-0) Apply Electronics Circuits' Diagnostic Skills (MF-INT-304E-0)	18 April 2012
	13. WSQ Advanced Certificate in Generic Manufacturing Skills (Automation)	5 Core + 2 Electives 15 CVs	Supervise Teams at Work (MF-COM-303C-1) Supervise Work Improvement Processes (MF-COM-303E-1) Supervise Quality Procedures (MF-COM-301C-1) Implement Good Documentation Practices (MF-COM-304C-0) Apply Basic Engineering Mathematics at Work (MF-AUT301C-0)	Perform PLC Programming (MF-AUT-301E-1) Apply Control Circuits Diagnostic Skills (MF-AUT-302E-0)	18 April 2012
	14. WSQ Certified Operations Professional	2 Core + 2 Electives 8 CVs	Supervise Quality Procedures (MF-COM-301C-1) Supervise Teams at Work (MF-COM-303C-1)	Supervise Workplace Safety and Health Practices (MF-COM-301E-1) Supervise Work Improvement Processes (MF-COM-303E-1)	NA
	15. WSQ Certified Productivity and Innovation Supervisor (Lean Management)	2 Core + 3 Electives Min 18 CVs	Supervise Quality Procedures (MF-COM-301C-1) Supervise Teams at Work (MF-COM-303C-1)	Apply Flow and Pull Systems in the Workplace (MF-PIM-301E-0) Supervise Quick Change Over (MF-PIM-302E-0) Supervise Total Productive Maintenance (MF-PIM-303E-0) Implement Hoshin Kanri-Policy Development (MF-PIM-304E-0) Implement Layout Optimisation - 3P (MF-PIM-305E-0) <i>* Lean Project (110 hrs)</i>	13 August 2010
Diploma	16. WSQ Certified Productivity and Innovation Manager	5 Core + 1 Electives Min 20 CVs	Implement Business Process Reengineering (MF-PIM-401C-1) Supervise Workplace Safety and Health Practices (MF-COM-301E-1) Supervise Work Improvement Processes (MF-COM-303E-1) Supervise Quality Procedures (MF-COM-301C-1) Supervise Teams at Work (MF-COM-303C-1)	Implement Lean Six Sigma (MF-PIM-401E-1) <i>* Implement Enterprise Productivity Improvement Project (104 hrs)</i>	16 July 2010
	17. WSQ Certified Associate Operations Executive	3 Core + 1 Electives Min 20 CVs	Manage Quality System and Processes (MF-COM-401C-1) Apply Project Management Skills (MF-COM-402C-1) Manage Process Improvement (MF-COM-403C-1)	Apply Management Level Planning Skills (MF-COM-404C-1) <i>* Company Improvement Project (96 hrs)</i>	16 July 2010