

SKILLS FRAMEWORK FOR PRECISION ENGINEERING SKILLS MAP - MASTER CRAFTSMAN					
Sector	Precision Engineering				
Track	Technical and Engineering				
Occupation	Production Technician				
Job Role	Master Craftsman				
Job Role Description	<p>The Master Craftsman is an experienced subject matter expert in manufacturing techniques, and leverages on his/her expertise to resolve technical issues and serve as an expert resource to others. He optimises production activities, processes and systems to increase manufacturing productivity. He supervises a team to meet production targets and product quality standards while ensuring compliance to workplace safety and health, and other regulatory requirements.</p> <p>He may be required to work on rotating shifts in a factory setting, and may engage the organisation's management and customers on technical aspects of projects. He should possess communication and negotiation skills for this purpose. He also trains and coach fellow colleagues in the technical aspects of work.</p>				
Critical Work Functions and Key Tasks	Critical Work Functions	Manufacture components and end products	Key Tasks		Performance Expectations (For legislated / regulated occupations)
			Apply computer-aided design (CAD) techniques to design parts and assemblies		
		Conduct tests to assess materials' suitability for manufacturing components			
		Verify conformance of product dimensions against specifications			
		Formulate machining strategies to fulfil product specification requirements			
		Manage manufacturing activities			
		Produce and post-process the tool path data into machine specific codes for multi-axis computer numerical control (CNC) machining			
	Conform to management system requirements	Monitor process performance data to establish control parameters			
		Monitor internal quality systems			
		Coordinate with external suppliers and customers on quality matters			
		Enforce compliance of safety and good manufacturing practices and processes in production areas			
		Conduct technical presentations			
	Manage manufacturing process workflow	Design mechanical fixtures and moulds to facilitate manufacturing processes			
		Optimise manufacturing processes by leveraging on technology and specialised expertise			
		Manage new technology and innovations within manufacturing processes			
		Design components for equipment building and automation of machinery			
		Apply mechanical components and support maintenance equipment within automated assembly systems			
	Contribute to continuous improvement	Evaluate and recommend process changes for improvements to help improve yield, quality and cycle times			
		Lead continuous improvement projects			
		Lead working level community to explore opportunities for improvement projects			
Influence organisational development and strategies	Negotiate with customers to reconcile product requirements with manufacturing parameters and business needs				
	Contribute to business analytics to facilitate data gathering and decision-making				
Skills & Competencies	Technical Skills and Competencies		Generic Skills and Competencies (Top Level 5)		
	Additive Manufacturing	Level 3	Managing Diversity	Advanced	
	Automated System Design	Level 4	Leadership	Intermediate	
	Automation Process Control	Level 4	Problem Solving	Advanced	
	Automation System Maintenance	Level 4	Teamwork	Intermediate	
	Change Management	Level 4	Interpersonal Skills	Intermediate	
	Computer-aided Design	Level 4			
Computer-aided Manufacturing	Level 4				

Continuous Process Improvement	Level 4
Cutting	Level 3
Data Analytics System Design	Level 4
Data Synthesis	Level 4
Emergency Response Management	Level 2
Engineering Product Design	Level 5
Equipment Maintenance	Level 4
Geometric Dimensioning and Tolerancing	Level 3
Injection Mould Design	Level 4
Innovation Management	Level 4
Internet of Things Management	Level 4
Jigs and Fixture Design	Level 3
Learning and Development	Level 4
Machining	Level 4
Manufacturing Process Management	Level 4
Manufacturing Technology	Level 4
Metallic Material Characterisation	Level 4
Networking	Level 5
Plastic Injection Moulding	Level 4
Polymeric Material Characterisation	Level 3
Precision Measurement	Level 3
Project Management	Level 3
Quality System Management	Level 5
User Experience Design	Level 3
User Interface Design	Level 3
Vision Leadership	Level 4
Workplace Safety and Health System Management	Level 4

Programme Listing	For a list of Training Programmes available for the Precision Engineering sector, please visit: www.skillsfuture.sg/skills-framework/pe
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