

SKILLS FRAMEWORK FOR PRECISION ENGINEERING SKILLS MAP - MACHINIST/TECHNICIAN				
Sector	Precision Engineering			
Track	Technical and Engineering			
Occupation	Production Technician			
Job Role	Machinist/Technician			
Job Role Description	<p>The Machinist/Technician works under close supervision to carry out structured work while adhering closely to standard work instructions and procedures. He/She sets up and operates special purpose equipment to fabricate components and parts. In the process, he is required to read and interpret sketches, drawings, manuals and specifications to determine the dimensions and tolerances of finished work pieces, sequences of operations and set-up requirements. He also observes the machines, detects malfunctions and makes adjustments to ensure smooth operations.</p> <p>The Machinist/Technician may be required to work on rotating shifts in a factory setting, and is responsible for providing basic engineering technical support to ensure smooth production flow and process flow, in accordance with organisational requirements.</p> <p>He is able to work in a team to achieve production and quality targets, and interact effectively with others to ensure that all issues are resolved appropriately and efficiently.</p>			
Critical Work Functions, Key Tasks and Performance Expectations	Critical Work Functions	Key Tasks	Performance Expectations (For legislated / regulated occupations)	
	Manufacture components and end products	Interpret technical drawings and blue prints	In accordance with: • Workplace Safety and Health (WSH) Act	
		Perform dimensional and geometric measurements		
		Operate manufacturing equipment, tools and machinery		
		Perform general machining and assembly tasks		
		Perform computer numerical control (CNC) programming for manufacturing tasks		
	Conform to management system requirements	Apply workshop practices, cleanliness and housekeeping protocols in accordance with standard operating procedures (SOPs)		
		Apply organisational quality systems in manufacturing production tasks		
		Apply standards and SOPs related to manufacturing safety policies and procedures		
	Manage manufacturing process workflow	Apply productivity methods and practices to improve efficiency in manufacturing production tasks		
Install electrical sensors, electrical devices and components to operate control circuitry				
Contribute to continuous improvement	Take initiative to seek opportunities for improvements and implement corrective actions			
	Keep records of defective final products			
Skills & Competencies	Technical Skills and Competencies		Generic Skills and Competencies (Top Level 5)	
	Additive Manufacturing	Level 2	Communication	Basic
	Augmented Reality Application	Level 1	Digital Literacy	Basic
	Automated Operation Monitoring	Level 1	Lifelong Learning	Basic
	Automated System Design	Level 1	Problem Solving	Basic
	Automation System Maintenance	Level 1	Teamwork	Basic
	Cleanliness and Contamination Control	Level 1		
	Computer-aided Design	Level 1		
	Computer-aided Manufacturing	Level 1		
	Continuous Process Improvement	Level 1		
	Cutting	Level 1		
	Data Synthesis	Level 3		
	Embedded System Integration	Level 2		
	Emergency Response Management	Level 2		
	Equipment Maintenance	Level 1		
	Geometric Dimensioning and Tolerancing	Level 2		
	Hydraulic Systems Management	Level 1		
	Internet of Things Management	Level 2		
	Machining	Level 1		
	Manufacturing Process Management	Level 2		
	Non-destructive Testing	Level 2		
Material Joining	Level 1			
Pneumatic Systems Management	Level 1			

	Precision Measurement	Level 1	
	Product and Machine Assembly	Level 1	
	Quality System Management	Level 2	
	Surface Preparation and Protection	Level 1	
	Virtual Reality Application	Level 2	
	Workplace Safety and Health Practice	Level 2	
Programme Listing	For a list of Training Programmes available for the Precision Engineering sector, please visit: www.skillsfuture.sg/skills-framework/pe		

The information contained in this document serves as a guide.

