

Skills Framework for Precision Engineering

Programmes that broaden or deepen specific skills and knowledge
for the various occupations in the sector

Technical and Engineering

Job Role:
Product Engineer/Product Designer

Full Qualification Programme	Provider
Bachelor of Engineering (Mechanical Engineering) - Part-time	Nanyang Technological University
Graduate Certificate in Precision and Advanced Manufacturing	
Specialist Certificate in Manufacturing Engineering	

Technical Skills and Competencies (TSC)			Modular Programmes	Providers
Category	Title	Proficiency Level		
Automation Management	Automated System Design	Level 5	WSQ Apply Industrial Robots and Automation (SF)	Singapore Institute of Manufacturing Technology
Business and Organisational Management	Business Innovation	Level 4	Essentials of Health Informatics (EHI)	Gateway Consulting Pte Ltd
			AMIA 10x10 Certificate	
			NICF - Design Thinking in Service Systems - Design	Institute of Systems Science, National University of Singapore
			NICF - Digital User Experience Design	
			NICF - Service Design Methods	
			Introduction to Health Informatics	National University of Singapore, Centre for Health Informatics
			Mini-HI (Health Informatician)	
			Global Wealth Management Operations and Technology	Financial IT Academy@SMU (FITA)
			Corporate Banking Operations and Technology: Cash Management	
			Financial Markets Operations and Technology	
			Retail Banking Operations and Technology: Channels And Services	
			Retail Banking Operations and Technology: Core Banking	
			Retail Banking Operations and Technology	
			Corporate Banking Operations and Technology	
Corporate Banking Operations and Technology: Trade Finance				
Financial Markets Operations and Technology: Clearing And Settlement				
Corporate Banking Operations and Technology: Corporate Lending				
Engineering and Manufacturing Fundamentals	Heat Treatment Processing	Level 5	WSQ Review Advanced Heat Treatment Process (SF)	Singapore Institute of Manufacturing Technology
Manufacturing and Operations	Cleanliness and Contamination Control	Level 4	Manage High Vacuum Technology	Nanyang Technological University
	Manufacturing Process Management	Level 5	WSQ Implement OEE for Productivity Improvement (SF)	Singapore Institute of Manufacturing Technology
			WSQ Improve Machining Productivity through Dynamics Analysis and Simulation Programme (SF)	
			WSQ Manage Manufacturing Execution System (MES) (SF)	
	Metrology Management	Level 5	Implement Optical Metrology	Nanyang Technological University
			WSQ Engineering Optics and Optical Measurements (SF)	Singapore Institute of Manufacturing Technology
Precision Measurement	Level 4	WSQ Dimensional Measurements and Metrology (SF)	Singapore Institute of Manufacturing Technology	
Production Line Set-Up	Level 5	WSQ Design Precision Machines (SF)	Singapore Institute of Manufacturing Technology	

Precision Manufacturing Process	Additive Manufacturing	Level 5	Introduction to 3D Printing	Nanyang Technological University
			WSQ Smart Additive Manufacturing System	Singapore Institute of Manufacturing Technology
	Laser and Optics Application	Level 5	WSQ Employ Laser for the PE Industry (SF)	Singapore Institute of Manufacturing Technology
	Machining	Level 5	WSQ Evaluate Advanced Metal Machining Techniques (SF)	Singapore Institute of Manufacturing Technology
	Material Joining	Level 3	WSQ Apply Advanced Joining Technologies (SF)	Singapore Institute of Manufacturing Technology
			WSQ Understand the Microfluidics Manufacturing Processes	
	Metal-based Additive Manufacturing	Level 5	Introduction to 3D Printing	Nanyang Technological University
			WSQ Review High Speed Additive Manufacturing Processes for Metallic Components	Singapore Institute of Manufacturing Technology
WSQ Review High Speed Laser Welding & Additive Manufacturing				
Polymeric Additive Manufacturing	Level 4	WSQ Review Polymer-based Additive Manufacturing Processes for Flexible Mass Customisation	Singapore Institute of Manufacturing Technology	
Surface Preparation and Protection	Level 4	WSQ Apply Advanced Coating Technologies for Wear and Corrosion Protection	Singapore Institute of Manufacturing Technology	
Welding	Level 4	WSQ Design Arc Welding (SF)	Singapore Institute of Manufacturing Technology	
Product Development	Engineering Product Design	Level 5	Design for Assembly in Manufacturing	Nanyang Technological University
	Manufacturing Process Design	Level 4	Design for Assembly in Manufacturing	Nanyang Technological University
Quality Management	Failure Analysis	Level 5	Failure Analysis and Prevention for Engineering Materials, Structures and Device	Nanyang Technological University
	Quality System Management	Level 4	WSQ Manage Quality Systems and Processes	AVANTA Global Pte. Ltd.

For Generic Skills and Competencies (GSCs) programme listing, please refer to *Section (v) (c) - View the Training Programmes for GSCs*. Or click this [link](#) to view the GSCs Programme Listing.