

Skills Framework for Public Transport

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

Rail Engineering (Mechanical and Electrical)

Job Role:
Senior Engineer/Engineer (Mechanical and Electrical)

Full Qualification Programmes	Providers
Post-Graduate Certificate in Urban Railway Engineering (Singapore) (For in-service professional)	SMRT Institute, University of Birmingham (UoB)

Technical Skills and Competencies (TSC)			Modular Programmes	Providers
Category	Title	Proficiency Level		
Business Management	Change Management	4	Risk Assessment and Management	Singapore University Of Social Sciences
Business Management	Data and Statistical Analytics	4	NICF - Customer Analytics	Institute of Systems Science, NUS
			NICF - Statistical Thinking for Data Science and Analytics	Lithan Academy Pte Ltd
			NICF-Business Analytics for CIOs and Senior Managers	NUS School of Computing
Business Management	Innovation Management	4	Champion and Facilitate Innovation	Capelle Academy Pte Ltd
			Innovation : Turning Ideas into Gold (Project)	Everest Innovation Pte Ltd
			WSQ Manage Innovation in the Business Function	Singapore Media Academy Pte Ltd
			Manage Innovation in the Business Function	Singapore National Employers Federation
Business Management	Project Management	4	Intermediate Requirements Engineering	Singapore Institute of Technology
			Plan and Manage Project Management	Singapore Polytechnic
			Principles of Project Management	Singapore University Of Social Sciences
Corporate Governance and Policy	Rail Regulatory Compliance	4	Career Onboarding for Railway Engineering (CORE) Programme (For in-service professional)	Singapore Rail Academy (SGRA), Land Transport Authority
Process Improvement	Continuous Improvement Management	4	Quality Assurance & Quality Control	Ngee Ann Polytechnic
			Safety Management and Audit	Singapore University Of Social Sciences
			Behavioural Based Safety	Singapore University Of Social Sciences
			Cognitive Systems Engineering	Singapore University Of Social Sciences
			Safety, Risk and Resilience Engineering	Singapore University Of Social Sciences
			MC4: Systems Thinking & Methods	Temasek Polytechnic
			MC5: Organisational Management	Temasek Polytechnic
Maintenance Management	Condition-based Assets Monitoring Management	3	Facility Management Using ARCHIBUS Asset Building Operations Management	Singapore Institute of Technology
Maintenance Management	Equipment Maintenance and Housekeeping	3	Facility Management Using ARCHIBUS Asset Building Operations Management	Singapore Institute of Technology
Maintenance Management	Maintenance Scheduling	4	Facility Management Using ARCHIBUS Asset Building Operations Management	Singapore Institute of Technology
People Management	Manpower Planning and Deployment	3	Conduct Competency-based Interview and Make Hiring Decision	Center for Competency-Based Learning and Development Pte Ltd
			Conduct Interviews and Make Hiring Decisions	Human Capital (Singapore) Pte Ltd
			Conduct Interviews and Make Hiring Decisions	Singapore National Employers Federation
			Plan and Conduct Interviews to Facilitate Hiring Decisions	Singapore National Employers Federation
			MC3: Decision Analysis	Temasek Polytechnic
			MC5: Organisational Management	Temasek Polytechnic
			Conduct Interview and Make Hiring Decisions	Training Masters Workforce Institute Pte Ltd
Process Improvement	Systems Engineering Thinking	4	Foundations of Systems Engineering	Singapore Institute of Technology
			Fundamental of Rail Engineering Systems (FRES) (For in-service professional in the Rail Sector)	Singapore Rail Academy (SGRA), Land Transport Authority
			Cognitive Systems Engineering	Singapore University Of Social Sciences
			IMPACT: Advanced Problem Solving and Decision Making Workshop	Capelle Academy Pte. Ltd.
			Apply Systems Thinking in Problem Solving and Decision Making	Service Quality Centre Pte. Ltd.
			Apply Systems Thinking in Problem Solving and Decision Making	Singapore National Employers Federation
			Apply Systems Thinking in Problem Solving and Decision Making	SSA Consulting Group Pte. Ltd.
			Apply Systems Thinking in Problem Solving and Decision Making	Training Vision Institute Pte. Ltd.
Rail Systems Maintenance	Escalator and Travellor Maintenance	4	SGNDT (ISO 9712) Level II for Magnetic Particle Testing	Singapore Institute of Technology
			SGNDT (ISO 9712) Level II for Penetrant Testing	Singapore Institute of Technology
			SGNDT (ISO 9712) Level II for Ultrasonic Testing	Singapore Institute of Technology
Rail Systems Maintenance	Drainage, Plumbing and Sanitary Systems Maintenance	4	SGNDT (ISO 9712) Level II for Magnetic Particle Testing	Singapore Institute of Technology
			SGNDT (ISO 9712) Level II for Penetrant Testing	Singapore Institute of Technology
			SGNDT (ISO 9712) Level II for Ultrasonic Testing	Singapore Institute of Technology
Rail Systems Maintenance	Lift Systems Maintenance	4	SGNDT (ISO 9712) Level II for Magnetic Particle Testing	Singapore Institute of Technology
			SGNDT (ISO 9712) Level II for Penetrant Testing	Singapore Institute of Technology
			SGNDT (ISO 9712) Level II for Ultrasonic Testing	Singapore Institute of Technology

Rail Systems Maintenance	Platform Screen Door Maintenance	4	Fundamental of Rail Engineering Systems (FRES) (For in-service professional in the Rail Sector)	Singapore Rail Academy (SGRA), Land Transport Authority
			SGNDT (ISO 9712) Level II for Magnetic Particle Testing	Singapore Institute of Technology
			SGNDT (ISO 9712) Level II for Penetrant Testing	Singapore Institute of Technology
			SGNDT (ISO 9712) Level II for Ultrasonic Testing	Singapore Institute of Technology
Rail Systems Maintenance	Station Air-Conditioning Systems Maintenance	4	Airflow Modelling Using Computational Fluid Dynamics (CFD) in Built Environment	Singapore Institute of Technology
			Understanding HVAC System in a Systematic Way	Singapore Institute of Technology
Rail Systems Maintenance	Ventilation System Maintenance	4	Airflow Modelling Using Computational Fluid Dynamics (CFD) in Built Environment	Singapore Institute of Technology
			Understanding HVAC System in a Systematic Way	Singapore Institute of Technology
			SGNDT (ISO 9712) Level II for Magnetic Particle Testing	Singapore Institute of Technology
			SGNDT (ISO 9712) Level II for Penetrant Testing	Singapore Institute of Technology
			SGNDT (ISO 9712) Level II for Ultrasonic Testing	Singapore Institute of Technology
Supply Chain Management	Inventory Management	3	Fundamental of Rail Engineering Systems (FRES) (For in-service professional in the Rail Sector)	Singapore Rail Academy (SGRA), Land Transport Authority
			MC2: Logistic Management	Temasek Polytechnic
			Manage Inventory	INTEGRATED TRAINING CONSULTANTS PTE. LTD.
			Manage Inventory	ST ELECTRONICS (E-SERVICES) PTE. LTD.
			Manage Inventory	TRAINING MASTERS WORKFORCE INSTITUTE PTE LTD
Technology Management	Internet of Things Application	3	Manage Inventory	U-TRAINING CENTRE PTE. LTD.
			Sensors Systems Design for IoT	Institute of System Science (ISS), NUS
			Introduction to GIS and its Applications	Nanyang Polytechnic
			Enabling Technology for IoT - II	SMU Academy
Technology Management	Robotics and Automation Application	3	Building an Internet-of-Things Project	PACE Academy, Singapore Polytechnic
			Basic Microcontroller Programming (AMS SBMCs)	Ngee Ann Polytechnic
			Communication and Vision Systems (AMS SBMCs)	Ngee Ann Polytechnic
			Computer Programming (AMS SBMCs)	Ngee Ann Polytechnic
			Industrial Automation (AMS SBMCs)	Ngee Ann Polytechnic
			Industrial Drive Systems (AMS SBMCs)	Ngee Ann Polytechnic
			Microcontroller Interfacing and Applications (AMS SBMCs)	Ngee Ann Polytechnic
			Unmanned Systems (AMS SBMCs)	Ngee Ann Polytechnic
			Embedded Control Systems: Theory and Practice	Singapore Institute of Technology
Introduction To Robotics Fundamentals	Singapore Institute of Technology			
Technology Management	Technology Application	2	Robot Operating System: An Introduction	Singapore Institute of Technology
			Emerging Products in Automotive Industry	Singapore Institute of Technology
Workplace Safety and Health	Work at Heights	3	Managing Work-at-Height	NTUC Learning Hub
			Managing Work-at-Height	Singapore Safety Training Centre
Workplace Safety and Health	Workplace Facilities Safety Management	3	Supervise Workplace Safety and Health Practices	AVANTA GLOBAL PTE. LTD.
			Modular Certificate in Workplace Safety and Health Management	Institute of Technical Education
			Supervise Workplace Safety and Health Practices	INTEGRATED TRAINING CONSULTANTS PTE. LTD.
Workplace Safety and Health	Workplace Safety and Health for Confined Spaces	3	Confine Space Rescue Course	Singapore Safety Training Centre
Workplace Safety and Health	Workplace Safety and Health for Fire Prevention and Fire Fighting	2	Fire Fighter Course 1	Civil Defence Academy
			Advanced Fire Fighting	Singapore Polytechnic
			Advanced Fire Fighting - Practical	Singapore Polytechnic

For Generic Skills and Competencies (GSCs) programme listing, please refer to Section (v) (c) - View the Training Programmes for Generic Skills and Competencies (GSCs). To access the section, click this [link](#)