ROBOTICS TECHNICIAN

O*NET OCCUPATIONAL CODE: 17-3024.01

Related Training Instruction Framework for Common Job Functions

The Apprenticeship Framework from Tooling-U SME provides the industry-endorsed related training instruction (RTI) hours needed to meet the requirements of a competency-based or hybrid apprenticeship program. The Apprenticeship Framework is designed to provide a minimum of 165 RTI hours per framework and can be used to enhance an existing program or provide the building blocks for new programs. Frameworks are divided into five sections that support any 21st-century apprenticeship, and provide and encourage new approaches to building a skilled and competitive workforce.

Flexible and Convenient

The Apprenticeship Framework quickly provides an RTI resource for any apprenticeship. Online classes provide students with self-paced, easy access to RTI that is available 24x7. An app is available for phones and tablets.

THE APPRENTICESHIP FRAMEWORK OFFERS:

- Predefined curriculum for each job function

- Online classes that align to classroom objectives and add program capacity

- A minimum of 165 RTI hours per framework

- Supplemental videos

- Access to the Administrative and Student Center

- Guidance from our Client Success team

- Hundreds of additional instructor-led training (ILT) hours
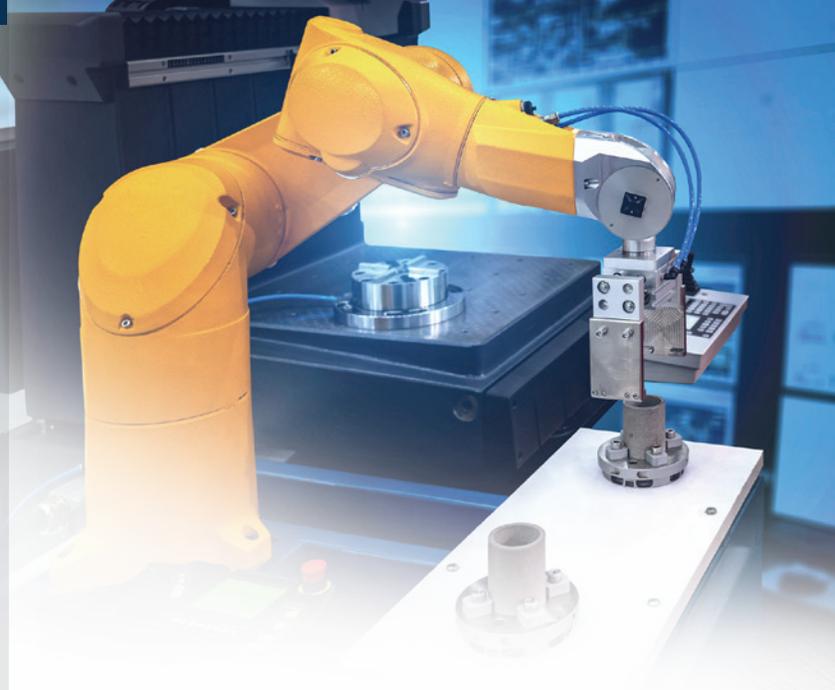
FRAMEWORK SECTIONS

Job Skills
Adherence to core fundamental employability skills that employers desire from new and incumbent employees in the workplace.

Health and Safety
Adherence to safety, health and environmental rules and regulations to avoid workplace injury, and to maximize personal and organizational productivity and profitability.

Foundations in Manufacturing
Adherence to the essential technical knowledge and skills necessary to build a job-ready manufacturing workforce.

Technical Expertise
Adherence to the standards designated for a specific craft through the achievement of theory and hands-on skills, where these elements are applied in industry work.

Leading and Developing People
Adherence to good practices and positive interaction in leading, training or mentoring co-workers within a manufacturing environment.

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	Total RTI Hours Available	237

Job Skills

Tooling U-SME Department	Related Training Instruction Topics Covered	RTI Hours
Lean	5S	1.5
Shop Essentials (Applied Mathematics)	Manufacturing Awareness	3
Supervisor Essentials	Industrial and Labor Relations, Sexual Harassment Prevention, Communications, Active Listening, Reading for Comprehension	9
Quality	Customer Focus	1.5
	Total	**15**

Health and Safety

Tooling U-SME Department	Related Training Instruction Topics Covered	RTI Hours
Safety	General Workplace Safety, Personal Protective Equipment, Fall Protection, Confined Spaces, Machine Safety, Fire Safety and Prevention, Back Injury Prevention, Respiratory Protection, Industrial Ergonomics, LOTO, Hazard Communication Training, Hazardous Materials Handling and Storage, Bloodborne Pathogens	24
Metal Cutting	Machine Safety, Metalworking Fluid Safety	3
	Total Hours	**27**

Foundations in Manufacturing

Tooling U-SME Department	Related Training Instruction Topics Covered	RTI Hours
Shop Essentials (Applied Mathematics)	Basic Arithmetic Operations, Using Fractions, Decimals and Percentages, Units of Measurement, Geometry, Trigonometry, Reading Schematics and Prints, Statistical Process Control (SPC)	15
Inspection	Fundamentals of Blueprint Reading, Reading Schematics, GD&T, Inspection	4.5
Quality	Standard Operating Procedures, Quality Management System (QMS)	3
Lean	Continuous Improvement System, Lean, Statistical Process Control (SPC), Root Cause Analysis, Critical Thinking	18
Robotics	Start Up and Shut Down, Machine Troubleshooting	3
Safety	Machine LOTO	1.5
CNC	CAD/CAM/CAE Applications	1.5
Electrical Systems	Reading Schematics and Prints (Electrical)	1.5
Mechanical Systems	Mechanical Physics	1.5
Motor Controls	Reading Schematics and Prints (Mechanical)	3
Rigging	Rigging Safety, Tools and Techniques	7.5
	Total	**60**

Technical Expertise

Tooling U-SME Department	Related Training Instruction Topics Covered	RTI Hours
Electrical Systems	AC and DC Circuits, Power Sources, Wiring, Electrical Instruments, Electical Theory, Electrical Standards, Electrical Safety	21
Fasteners	Assembly/Disassembly	1.5
Hydraulics and Pneumatics	Hydraulic Systems, Pneumatic Systems, Fluid and Piping Schematics, Preventative Maintenance	29
Lean	TPM	1.5
Mechanical Systems	Mechanical Power Components (Gears, Belts, Drives, Transmissions, Bearings), Lubrication Practices, Mechanical Power Theory, Mechanical Safety	18
Motor Controls	Power Supply, Electrical Motors, Sensors, Electrical Instruments, Relays	6

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Technical Expertise

Tooling U-SME Department	Related Training Instruction Topics Covered	RTI Hours
PLCs	Process Control Systems, PLCs, Bus-Lines and Mother-Boards, Bits and Words	12
PLCs: Siemens	Process Control Systems, PLCs, Bus-Lines and Mother-Boards, Bits and Words	14
Quality	Predictive Maintenance	1.5
Robotics	Information Systems, Teach Pendant Basics, Writing Programs for the Teach Pendant, Robot Components, Networks, Troubleshooting, Preventative Maintenance, Vision Systems	20
Welding	Teach Pendant Basics	1.5
	Total Hours	**126**

Leading and Developing People

Tooling U-SME Department	Related Training Instruction Topics Covered	RTI Hours
Supervisor Essentials	Team Building, Conflict Resolution, Project Management, Performance Management, Mentoring Others	9
	Total	**9**