

MAINTENANCE TECHNICIAN

O*NET OCCUPATIONAL CODE: 49-9043.00

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.

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, Statistical Process Control (SPC)	13.5
Inspection	Fundamentals of Blueprint Reading, Reading Schematics, GD&T, Inspection	12
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
Total		51

Technical Expertise

Tooling U-SME Department	Related Training Instruction Topics Covered	RTI Hours
Abrasives	Grinding	24
CNC	Turning, Milling	3
Electrical Systems	Electrical Theory, Electrical Standards, Electrical Safety, Circuits, Power Sources, Wiring, Electrical Instruments, Line Diagrams	24
Fasteners	Fasteners	12
Hydraulics and Pneumatics	Fluid Piping Schematics, Pneumatic Systems, Hydraulic Systems, Hot Surfaces, Piping Materials, Tools and Installation, Preventative Maintenance	31.5
Inspection	In-Process Verification	1.5
Lean	TPM Program	1.5
Manual Machining	Layout	1.5
Mechanical Systems	Mechanical Safety, Lubrication Practices, Mechanical Power Theory, Mechanical Power Components	19.5
Metal Cutting	Sawing, Bench and Pedestal Grinder, Turning, Metal Removal Process, Workholding, Fixtures, Cutting Tools and Abrasives, Drilling	27
Motor Controls	Motors, Power Supply, Relays, Sensors	6

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Technical Expertise

Tooling U-SME Department	Related Training Instruction Topics Covered	RTI Hours
PLCs	PLCs, Process Control Systems	6
PLCs: Siemens	PLCs, Process Control Systems	12
Quality	Predictive Maintenance	1.5
Rigging	Rigging Safety, Load Charts, Tools and Techniques	7.5
Robotics	Preventative Maintenance	3
Safety	Power Hand Tools, Pneumatic, Electric Deburring Tools	3
Welding	Ventilation, Flashback, Welding Symbols, Types of Welds, Worksite Preparations and Planning, Welding Processes, Brazing and Soldering	40.5
Workholding	Workholding, Fixtures, Cutting Tools and Abrasives, Drilling	12
Total Hours		237

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