MANUFACTURING FUNDAMENTALS



PROFESSIONAL DEVELOPMENT

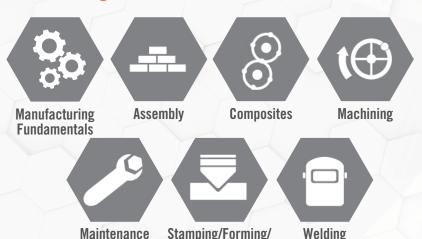
LEARNING PLANS FOR MANUFACTURING JOB ROLES

Online Training from RTMA and Tooling U-SME offers a quick-start, progressive road map that allows manufacturers to build career paths for employees. This online training is intended to enhance your existing on the job training, to create a job progression plan and requires minimal preparation. It is efficient, effective training that has been developed with input from manufacturing experts.

FLEXIBLE AND CONVENIENT

Online classes are self-paced, typically taking 60 minutes to complete. They are easily and conveniently accessible on desktops and laptops, and on tablets and phones with the Tooling U-SME app.

Manufacturing Fundamentals introduces basic concepts in the following functional areas:



Fabrication

Online Training offers:

- Content developed by industry experts
- Accessible anytime, anywhere
- Self-paced
- Predefined curriculum for each job role
- Engaging and interactive content
- Pre- and post-training knowledge assessments
- Access to Tooling U-SME's Learning Management System (LMS)
- Guidance from our Client Success team, including advice, insights, and ideas built on best practices and years of experience





Mix and match all offerings for personal job progression paths.

MANUFACTURING FUNDAMENTALS

MANUFACTURING

Basic Measurement Calibration Fundamentals 5S Overview Lean Manufacturing Overview Ferrous Metals Introduction to Mechanical Properties Introduction to Metals Introduction to Physical Properties Nonferrous Metals ISO 9001 Review Fire Safety and Prevention Flammable/Combustible Liquids Intro to OSHA Lockout/Tagout Procedures Noise Reduction and Hearing Conservation Personal Protective Equipment Powered Industrial Truck Safety Safety for Lifting Devices SDS and Hazard Communication Walking and Working Surfaces

ASSEMBLY

Types of Adhesives

Introduction to Assembly Overview of Non-Threaded Fasteners Overview of Threaded Fasteners Safety for Assembly Threaded Fastener Selection Basic Measurement Calibration Fundamentals Thread Standards and Inspection Ferrous Metals Introduction to Mechanical Properties

Tools for Threaded Fasteners

Introduction to Metals Introduction to Physical Properties Nonferrous Metals 5S Overview ISO 9001 Review Lean Manufacturing Overview Intro to Machine Rigging Lifting and Moving Equipment Rigging Equipment Rigging Inspection and Safety Ergonomics Fire Safety and Prevention

Flammable/Combustible Liquids Hand and Power Tool Safety Intro to OSHA Lockout/Tagout Procedures Noise Reduction and Hearing Conservation Personal Protective Equipment Powered Industrial Truck Safety Safety for Lifting Devices SDS and Hazard Communication Walking and Working Surfaces

COMPOSITES

Advanced Materials for Composites Advanced Thermoset Resins for Composites Intro to Compression Molding Intro to Lay-up and Spray-up Overview of Composite Processes Safety for Composite Processing Basic Measurement Calibration Fundamentals 5S Overview Lean Manufacturing Overview Ferrous Metals Introduction to Mechanical Properties Introduction to Metals Introduction to Physical Properties Nonferrous Metals ISO 9001 Review Fire Safety and Prevention Flammable/Combustible Liquids Intro to OSHA Lockout/Tagout Procedures Noise Reduction and Hearing Conservation Personal Protective Equipment Powered Industrial Truck Safety Safety for Lifting Devices SDS and Hazard Communication Walking and Working Surfaces

MACHINING

Molding

Basics of the Centerless Grinder Basics of the Cylindrical Grinder Basics of the Surface Grinder Grinding Processes Basics of the CNC Lathe Basics of the CNC Mill Coordinates for the CNC Lathe Coordinates for the CNC Mill Introduction to CNC Machines Basic Measurement Calibration Fundamentals 5S Overview Lean Manufacturing Overview Engine Lathe Basics Manual Mill Basics Ferrous Metals Introduction to Mechanical Properties Introduction to Metals Introduction to Physical Properties Nonferrous Metals Basic Cutting Theory Cutting Processes Overview of Machine Tools ISO 9001 Review Fire Safety and Prevention Flammable/Combustible Liquids Intro to OSHA Lockout/Tagout Procedures
Noise Reduction and Hearing
Conservation
Personal Protective Equipment
Powered Industrial Truck
Safety
Safety for Lifting Devices
SDS and Hazard Communication

Walking and Working Surfaces Chucks, Collets, and Vises Clamping Basics Introduction to Workholding Locating Devices Supporting and Locating Principles

MAINTENANCE

5S Overview
Calibration Fundamentals
Introduction to Mechanical
Properties
Introduction to Physical
Properties
Lean Manufacturing Overview
Ferrous Metals

Introduction to Mechanical Systems Introduction to Metals Nonferrous Metals Electrical Units Forces of Machines Safety for Electrical Work Safety for Mechanical Work Lubricant Fundamentals
Mechanical Power Variables
Basics of Siemens PLCs
Intro to OSHA
Introduction to PLCs
ISO 9001 Review
Personal Protective Equipment
Fire Safety and Prevention

Lockout/Tagout Procedures
Noise Reduction and Hearing
Conservation
SDS and Hazard
Communication
Walking and Working Surfaces
Flammable/Combustible
Liquids

Safety for Lifting Devices Powered Industrial Truck Safety Basic Measurement DC Circuit Components Introduction to Circuits Introduction to Hydraulic Components Introduction to Magnetism Introduction to Pneumatic Components Safety for Hydraulics and Pneumatics The Forces of Fluid Power

FORMING FABRICATING STAMPING

Basic Measurement Calibration Fundamentals 5S Overview Lean Manufacturing Overview Ferrous Metals Introduction to Mechanical Properties Introduction to Metals Introduction to Physical Properties Nonferrous Metals Overview of Machine Tools Press Brake Components ISO 9001 Review Fire Safety and Prevention Intro to OSHA Lockout/Tagout Procedures Noise Reduction and Hearing Conservation Personal Protective Equipment Powered Industrial Truck Safety Safety for Lifting Devices SDS and Hazard Communication Walking and Working Surfaces Manufacturing Process Applications: Part I Die Components
Press Basics
Punch and Die Operations

WELDING

Basic Measurement
Calibration Fundamentals
5S Overview
Lean Manufacturing Overview
Ferrous Metals
Introduction to Mechanical
Properties

Introduction to Metals Introduction to Physical Properties Nonferrous Metals ISO 9001 Review Fire Safety and Prevention Flammable/Combustible Liquids Intro to OSHA Lockout/Tagout Procedures Noise Reduction and Hearing Conservation Personal Protective Equipment Powered Industrial Truck Safety Safety for Lifting Devices SDS and Hazard Communication Walking and Working Surfaces Electrical Power for Arc Welding Electrical Safety for Welding Geometry Fundamentals for Welding Introduction to Welding Introduction to Welding Processes Math Fundamentals for Welding Overview of Weld Types PPE for Welding Welding Ferrous Metals Welding Furnes and Gases Safety Welding Nonferrous Metals Welding Safety Essentials





To begin your training program or for more information, contact Rich Turner, Director of Workforce Development (585) 721-6930 or rturner@rtma.org