



## PROFESSIONAL DEVELOPMENT

### LEARNING PLANS FOR MANUFACTURING JOB ROLES

Online Training from Chattahoochee Technical College 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 Awareness introduces basic concepts in the following functional areas:**



**Manufacturing Fundamentals**



**Assembly**



**Composites**



**Machining**



**Maintenance**



**Stamping/Forming/  
Fabrication**



**Welding**

### 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

## ASSEMBLY

<ul style="list-style-type: none"> <li>Basic Measurement</li> <li>Calibration Fundamentals</li> <li>Thread Standards and Inspection</li> <li>Intro to OSHA</li> <li>Personal Protective Equipment</li> <li>Noise Reduction and Hearing Conservation</li> </ul>	<ul style="list-style-type: none"> <li>Lockout/Tagout Procedures</li> <li>SDS and Hazard Communication</li> <li>Walking and Working Surfaces</li> <li>Fire Safety and Prevention</li> <li>Flammable/Combustible Liquids</li> </ul>	<ul style="list-style-type: none"> <li>Ergonomics</li> <li>Hand and Power Tool Safety</li> <li>Safety for Lifting Devices</li> <li>Powered Industrial Truck Safety</li> <li>Introduction to Physical Properties</li> </ul>	<ul style="list-style-type: none"> <li>Introduction to Mechanical Properties</li> <li>Introduction to Metals</li> <li>Ferrous Metals</li> <li>Nonferrous Metals</li> <li>Lean Manufacturing Overview</li> <li>ISO 9001:2015 Review</li> </ul>	<ul style="list-style-type: none"> <li>5S Overview</li> <li>Intro to Machine Rigging</li> <li>Rigging Equipment</li> <li>Lifting and Moving Equipment</li> <li>Rigging Inspection and Safety</li> <li>Types of Adhesives</li> <li>Intro to Assembly</li> </ul>	<ul style="list-style-type: none"> <li>Safety for Assembly</li> <li>Overview of Threaded Fasteners</li> <li>Tools for Threaded Fasteners</li> <li>Overview of Non-Threaded Fasteners</li> <li>Threaded Fastener Selection</li> </ul>
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## COMPOSITES

<ul style="list-style-type: none"> <li>Basic Measurement</li> <li>Calibration Fundamentals</li> <li>Intro to OSHA</li> <li>Personal Protective Equipment</li> <li>Noise Reduction and Hearing Conservation</li> <li>Lockout/Tagout Procedures</li> </ul>	<ul style="list-style-type: none"> <li>SDS and Hazard Communication</li> <li>Walking and Working Surfaces</li> <li>Fire Safety and Prevention</li> <li>Flammable/Combustible Liquids</li> <li>Safety for Lifting Devices</li> </ul>	<ul style="list-style-type: none"> <li>Powered Industrial Truck Safety</li> <li>Introduction to Physical Properties</li> <li>Introduction to Mechanical Properties</li> <li>Introduction to Metals</li> </ul>	<ul style="list-style-type: none"> <li>Ferrous Metals</li> <li>Nonferrous Metals</li> <li>Lean Manufacturing Overview</li> <li>ISO 9001:2015 Review</li> <li>5S Overview</li> <li>Safety for Composite Processing</li> </ul>	<ul style="list-style-type: none"> <li>Overview of Composite Processes</li> <li>Advanced Thermoset Resins for Composites</li> <li>Advanced Materials for Composites</li> </ul>	<ul style="list-style-type: none"> <li>Intro to Lay-up and Spray-up Molding</li> <li>Intro to Compression Molding</li> </ul>
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## MACHINING

<ul style="list-style-type: none"> <li>Introduction to Workholding</li> <li>Supporting and Locating Principles</li> <li>Locating Devices</li> <li>Clamping Basics</li> <li>Chucks, Collets, and Vises</li> <li>Basic Measurement</li> <li>Calibration Fundamentals</li> </ul>	<ul style="list-style-type: none"> <li>Intro to OSHA</li> <li>Personal Protective Equipment</li> <li>Noise Reduction and Hearing Conservation</li> <li>Lockout/Tagout Procedures</li> <li>SDS and Hazard Communication</li> <li>Walking and Working Surfaces</li> </ul>	<ul style="list-style-type: none"> <li>Fire Safety and Prevention</li> <li>Flammable Combustible Liquids</li> <li>Safety for Lifting Devices</li> <li>Powered Industrial Truck Safety</li> <li>Introduction to Physical Properties</li> </ul>	<ul style="list-style-type: none"> <li>Introduction to Mechanical Properties</li> <li>Introduction to Metals</li> <li>Ferrous Metals</li> <li>Nonferrous Metals</li> <li>Lean Manufacturing Overview</li> <li>ISO 9001:2015 Review</li> <li>5S Overview</li> </ul>	<ul style="list-style-type: none"> <li>Cutting Processes</li> <li>Overview of Machine Tools</li> <li>Basic Cutting Theory</li> <li>Manual Mill Basics</li> <li>Engine Lathe Basics</li> <li>Introduction to CNC Machines</li> <li>Basics of the CNC Lathe</li> <li>Basics of the CNC Mill</li> </ul>	<ul style="list-style-type: none"> <li>Coordinates for the CNC Lathe</li> <li>Coordinates for the CNC Mill</li> <li>Grinding Processes</li> <li>Basics of the Surface Grinder</li> <li>Basics of the Cylindrical Grinder</li> <li>Basics of the Centerless Grinder</li> </ul>
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## MAINTENANCE

<ul style="list-style-type: none"> <li>Basic Measurement</li> <li>Calibration Fundamentals</li> <li>Intro to OSHA</li> <li>Personal Protective Equipment</li> <li>Noise Reduction and Hearing Conservation</li> <li>Lockout/Tagout Procedures</li> <li>SDS and Hazard Communication</li> </ul>	<ul style="list-style-type: none"> <li>Walking and Working Surfaces</li> <li>Fire Safety and Prevention</li> <li>Flammable/Combustible Liquids</li> <li>Safety for Lifting Devices</li> <li>Powered Industrial Truck Safety</li> <li>Introduction to Physical Properties</li> </ul>	<ul style="list-style-type: none"> <li>Introduction to Mechanical Properties</li> <li>Introduction to Metals</li> <li>Ferrous Metals</li> <li>Nonferrous Metals</li> <li>Lean Manufacturing Overview</li> <li>ISO 9001:2015 Review</li> <li>5S Overview</li> </ul>	<ul style="list-style-type: none"> <li>Electrical Units</li> <li>Safety for Electrical Work</li> <li>Introduction to Circuits</li> <li>Introduction to Magnetism</li> <li>DC Circuit Components</li> <li>Basics of Siemens PLCs</li> <li>Introduction to Mechanical Systems</li> </ul>	<ul style="list-style-type: none"> <li>Safety for Mechanical Work</li> <li>Forces of Mechanics</li> <li>Mechanical Power Variables</li> <li>Introduction to PLCs</li> <li>The Forces of Fluid Power</li> <li>Safety for Hydraulics and Pneumatics</li> </ul>	<ul style="list-style-type: none"> <li>Introduction to Hydraulic Components</li> <li>Introduction to Pneumatic Components</li> <li>Lubricant Fundamentals</li> </ul>
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## STAMPING FORMING FABRICATING

<ul style="list-style-type: none"> <li>Basic Measurement</li> <li>Calibration Fundamentals</li> <li>Intro to OSHA</li> <li>Personal Protective Equipment</li> <li>Noise Reduction and Hearing Conservation</li> </ul>	<ul style="list-style-type: none"> <li>Lockout/Tagout Procedures</li> <li>SDS and Hazard Communication</li> <li>Walking and Working Surfaces</li> <li>Fire Safety and Prevention</li> <li>Flammable/Combustible</li> </ul>	<ul style="list-style-type: none"> <li>Liquids</li> <li>Safety for Lifting Devices</li> <li>Powered Industrial Truck Safety</li> <li>Introduction to Physical Properties</li> </ul>	<ul style="list-style-type: none"> <li>Introduction to Mechanical Properties</li> <li>Introduction to Metals</li> <li>Ferrous Metals</li> <li>Nonferrous Metals</li> <li>Lean Manufacturing Overview</li> </ul>	<ul style="list-style-type: none"> <li>ISO 9001:2015 Review</li> <li>5S Overview</li> <li>Overview of Machine Tools</li> <li>Press Basics</li> <li>Punch and Die Operations</li> <li>Die Components</li> </ul>	<ul style="list-style-type: none"> <li>Press Brake Components</li> <li>Manufacturing Process Applications: Part I</li> </ul>
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## WELDING

<ul style="list-style-type: none"> <li>Basic Measurement</li> <li>Calibration Fundamentals</li> <li>Intro to OSHA</li> <li>Personal Protective Equipment</li> <li>Noise Reduction and Hearing Conservation</li> <li>Lockout/Tagout Procedures</li> <li>SDS and Hazard</li> </ul>	<ul style="list-style-type: none"> <li>Communication</li> <li>Walking and Working Surfaces</li> <li>Fire Safety and Prevention</li> <li>Flammable/Combustible Liquids</li> <li>Safety for Lifting Devices</li> <li>Powered Industrial Truck Safety</li> </ul>	<ul style="list-style-type: none"> <li>Introduction to Physical Properties</li> <li>Introduction to Mechanical Properties</li> <li>Introduction to Metals</li> <li>Ferrous Metals</li> <li>Nonferrous Metals</li> <li>Lean Manufacturing Overview</li> </ul>	<ul style="list-style-type: none"> <li>ISO 9001:2015 Review</li> <li>5S Overview</li> <li>Welding Safety Essentials</li> <li>PPE for Welding</li> <li>Welding Fumes and Gases</li> <li>Safety</li> <li>Electrical Safety for Welding</li> <li>Introduction to Welding</li> </ul>	<ul style="list-style-type: none"> <li>Introduction to Welding Processes</li> <li>Math Fundamentals for Welding</li> <li>Geometry Fundamentals for Welding</li> <li>Welding Ferrous Metals</li> </ul>	<ul style="list-style-type: none"> <li>Welding Nonferrous Metals</li> <li>Overview of Weld Types</li> <li>Electrical Power for Arc Welding</li> </ul>
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