



**THE OHIO STATE UNIVERSITY**

COLLEGE OF FOOD, AGRICULTURAL,  
AND ENVIRONMENTAL SCIENCES

## PROFESSIONAL DEVELOPMENT

### LEARNING PLANS FOR MANUFACTURING JOB ROLES

Online Training from The Ohio State University Business Training & Educational Services 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.

### CAREER PATHWAYS FOR ASSEMBLY JOB ROLES

Combine job roles for learning pathways, or offer single job roles for targeted learning. Large comprehensive programs also available.

**ENGINEERING  
FUNDAMENTALS**

**ENGINEERING  
TECHNICIAN**

### 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

Choose a starting point based on employee's experience or company goals for a quick-start training solution.

# ENGINEERING

## ENGINEERING FUNDAMENTALS

Additive Manufacturing Methods and Materials	DC Circuit Components	Lean Manufacturing Overview	Introduction to Physical Properties	Geometry: Triangles
Additive Manufacturing Safety	Electrical Units	Essentials of Heat Treatment of Steel	Introduction to Plastics	Statistics
Introduction to Additive Manufacturing	Introduction to Circuits	Introduction to Ceramics	Cutting Processes	Trigonometry: Sine, Cosine, Tangent
Introduction to CAD and CAM for Machining	Introduction to Assembly	Introduction to Composites	Algebra Fundamentals	Trigonometry: The Pythagorean Theorem
AC Fundamentals	Basics of Tolerance	Introduction to Mechanical Properties	Geometry: Circles and Polygons	Units of Measurement
	Blueprint Reading	Introduction to Metals	Geometry: Lines and Angles	

## ENGINEERING TECHNICIAN

Basics of G Code Programming	Classification of Steel	Mill Tool Geometry	ISO 9001 Review	Manufacturing Process Applications: Part I
Parallel Circuit Calculations	Ferrous Metals	Basics of Ladder Logic	Process Design and Development	Manufacturing Process Applications: Part II
Series Circuit Calculations	Hardness Testing	Introduction to PLCs	Product Design and Development	Punch and Die Operations
Introduction to Hydraulic Components	Nonferrous Metals	PLC Timers and Counters	Production System Design and Development	Manufacturing Management
Introduction to Pneumatic Components	Thermoplastics	Basic Ladder Diagram Programming for Siemens PLCs	Quality and Customer Service Development	Personal Effectiveness
The Forces of Fluid Power	Thermosets	Basics of Siemens PLCs	Automated Systems and Control	Introduction to Welding Processes
Introduction to GD&T	Forces of Machines	Siemens PLC Communication	Hand and Power Tool Safety	Fixture Design Basics
SPC Overview	Power Transmission Components	Equipment/Tool Design and Development	Applied and Engineering Sciences	Supporting and Locating Principles
Troubleshooting	Drill Tool Geometry			
	Lathe Tool Geometry			

— New content is always being added. Check with your representative for the most current list of classes. —

