ENGINEERING

PROFESSIONAL DEVELOPMENT

LEARNING PLANS FOR MANUFACTURING JOB ROLES

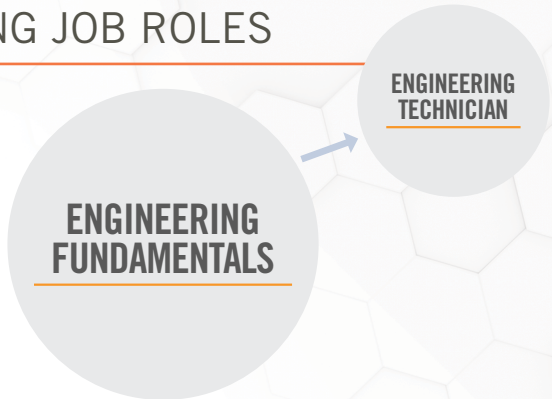
Online Training from MACNY and Tooling U-SME offers a quick-start, progressive road map that allows manufacturers to build career paths for employees. This online training is intended to enhance your existing on the job training, to create a job progression plan and requires minimal preparation. It is 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 ENGINEERING JOB ROLES

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



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

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To begin your training program or for more information, call Eileen Donovan, Workforce Development Specialist, at **315.474.4201, ext. 22** or email **edonovan@macny.org**.

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

ENGINEERING TECHNICIAN

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

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