



PROFESSIONAL DEVELOPMENT

LEARNING PLANS FOR MANUFACTURING JOB ROLES

Online Training from Northwest State Community 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.

QUALITY TECHNICIAN

Math Fundamentals
 Math: Fractions and Decimals
 Units of Measurement
 Basics of Tolerance
 Blueprint Reading
 Geometry: Lines and Angles
 Geometry: Triangles
 Geometry: Circles and Polygons
 Trigonometry: Sine, Cosine, Tangent
 Basic Measurement
 Calibration Fundamentals
 Hole Standards and Inspection
 Thread Standards and Inspection
 Surface Texture and Inspection
 Introduction to GD&T
 Major Rules of GD&T
 Inspection a Prismatic Part
 Inspecting a Cylindrical Part
 Advanced Hole Inspection

Inspecting with Optical Comparators
 Inspecting with CMMs
 Calibration and Documentation
 In-Line Inspection Applications
 Intro to OSHA
 Personal Protective Equipment
 Noise Reduction and Hearing Conservation
 Lockout/Tagout Procedures
 SDS and Hazard Communication
 Bloodborne Pathogens
 Walking and Working Surfaces
 Fire Safety and Prevention
 Hand and Power Tool Safety
 Saety for Lifting Devices
 Powered Industrial Truck Safety
 Introduction to Mechanical Properties

Essentials of Heat Treatment of Steel
 Hardness Testing
 Ferrous Metals
 Lean Manufacturing Overview
 ISO 9001:2015 Review
 5S Overview
 SPC Overview
 Cutting Processes
 Overview of Machine Tools
 Basic Cutting Theory
 Band Saw Operation
 Introduction to Metal Cutting
 Fluids
 Metal Cutting Fluid Safety
 Linear Instrument Characteristics

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.

QUALITY

QUALITY TECHNICIAN

<p>Math Fundamentals Math: Fractions and Decimals Units of Measurement Basics of Tolerance Blueprint Reading Geometry: Lines and Angles Geometry: Triangles Geometry: Circles and Polygons Trigonometry: Sine, Cosine,</p>	<p>Tangent Basic Measurement Calibration Fundamentals Hole Standards and Inspection Thread Stands and Inspection Surface Texture and Inspection Introduction to GD&T Major Rules of GD&T Inspection a Prismatic Part Inspecting a Cylindrical Part</p>	<p>Advanced Hole Inspection Inspecting with Optical Comparators Inspecting with CMMs Calibration and Documentation In-Line Inspection Applications Intro to OSHA Personal Protective Equipment Noise Reduction and Hearing Conservation</p>	<p>Lockout/Tagout Procedures SDS and Hazard Communication Bloodborne Pathogens Walking and Working Surfaces Fire Safety and Prevention Hand and Power Tool Safety Saety for Lifting Devices Powered Industrial Truck Safety</p>	<p>Introduction to Mechanical Properties Essentials of Heat Treatment of Steel Hardness Testing Ferrous Metals Lean Manufacturing Overview ISO 9001:2015 Review 5S Overview SPC Overview</p>	<p>Cutting Processes Overview of Machine Tools Basic Cutting Theory Band Saw Operation Introduction to Metal Cutting Fluids Metal Cutting Fluid Safety Linear Instrument Characteristics</p>
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ELECTRICAL PRODUCTION

<p>Algebra Fundamentals Geometry: Lines and Angles Geometry: Triangles Geometry: Circles and Polygons Trigonometry: The Pythagorean Theorem</p>	<p>Trigonometry: Sine, Cosine, Tangent Essentials of Heat Treatment of Steel Troubleshooting Introduction to CNC Machines Control Panel Functions for the</p>	<p>CNC Lathe Control Panel Functions for the CNC Mill Shift Registers Introduction to Circuits Introduction to Magnetism DC Circuit Components</p>	<p>NEC Overview AC Fundamentals Electrical Instruments Electrical Print Reading Conductor Selection Series Circuit Calculations Parallel Circuit Calculations</p>	<p>Limit Switches and Proximity Sensors Lubricant Fundamentals Overview of Soldering Relays, Contractors, and Motor Starters Control Devices</p>	<p>Distribution Systems Introduction to Electric Motors Logic and Line Diagrams Essentials of Leadership Essentials of Communication</p>
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MAINTENANCE PRODUCTION

<p>Algebra Fundamentals Geometry: Lines and Angles Geometry: Triangles Geometry: Circles and Polygons Trigonometry: The Pythagorean Theorem Trigonometry: Sine, Cosine, Tangent Essentials of Heat Treatment</p>	<p>of Steel Nonferrous Metals Troubleshooting Series Circuit Calculations Parallel Circuit Calculations Battery Selection Bearing Applications Spring Applications Belt Drive Applications Gear Applications</p>	<p>Reversing Motor Circuits Specs for Servomotors Reduced Voltage Starting The Forces of Fluid Power Safety for Hydraulics and Pneumatics Introduction to Hydraulic Components Introduction to Pneumatic Components</p>	<p>Introduction to Fluid Conductors Fittings for Fluid Systems Preventative Maintenance for Fluid Systems Lubricant Fundamentals Mechanical Power Variables Clutch and Brake Applications Intro to Machine Rigging Rigging Equipment</p>	<p>Rigging Inspection and Safety Rigging Mechanics Intro to Fastener Threads Overview of Threaded Fasteners Tools for Threaded Fasteners Overview of Non-Threaded Fasteners Understanding Torque Threaded Fastener Selection</p>	<p>Distribution Systems Introduction to Electric Motors Symbols and Diagrams for Motors Logic and Line Diagrams DC Motor Applications Solenoids AC Motor Applications Essentials of Leadership Essentials of Communication</p>
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AUTOMATION TECHNICIAN

<p>Bearing Applications Spring Applications Belt Drive Applications Gear Applications Introduction to PLCs Hardware for PLCs Basics of Ladder Logic Numbering Systems and Codes PLC Inputs and Outputs</p>	<p>Basic Programming PLC Timers and Counters Networking for PLCs Hand-Held Programmers for PLCs Overview of PLC Registers PLC Program Control Instructions Sequencer Instructions for PLCs</p>	<p>PLC Installation Practices PID for PLCs Data Manipulation Robot Components End Effectors Robot Axes Robot Sensors Robot Maintenance Robot Installations Vision Systems</p>	<p>Industrial Network Integration The Forces of Fluid Power Safety for Hydraulics and Pneumatics Introduction to Hydraulic Components Introduction to Pneumatic Components Introduction to Fluid Conductors</p>	<p>Fittings for Fluid Systems Mechanical Power Variables Clutch and Brake Applications Intro to Machine Rigging Rigging Equipment Rigging Inspection and Safety Rigging Mechanics Robot Safety Robot Troubleshooting Concepts of Robot</p>	<p>Programming Intro to Fastener Threads Overview of Threaded Fasteners Tools for Threaded Fasteners Overview of Non-Threaded Fasteners Understanding Torque Threaded Fastener Selection</p>
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ELECTRICAL TECHNICIAN

<p>Nonferrous Metals Battery Selection Bearing Applications Spring Applications Belt Drive Applications Gear Applications Reversing Motor Circuits</p>	<p>Specs for Servomotors Reduced Voltage Starting The Forces of Fluid Power Safety for Hydraulics and Pneumatics Introduction to Hydraulic Components</p>	<p>Introduction to Pneumatic Components Introduction to Fluid Conductors Fittings for Fluid Systems Mechanical Power Variables Clutch and Brake Applications</p>	<p>Intro to Machine Rigging Rigging Equipment Rigging Inspection and Safety Rigging Mechanics Intro to Fastener Threads Overview of Threaded Fasteners</p>	<p>Tools for Threaded Fasteners Overview of Non-Threaded Fasteners Understanding Torque Threaded Fastener Selection Distribution Systems Symbols and Diagrams for</p>	<p>Motors DC Motor Applications Solenoids AC Motor Applications</p>
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FLUID SYSTEMS TECHNICIAN

<p>Benchmark and Layout Operations Introduction to CNC Machines Control Panel Functions for the CNC Lathe Control Panel Functions for the CNC Mill Introduction to Circuits Introduction to Magnetism</p>	<p>DC Circuit Components NEC Overview AC Fundamentals Electrical Instruments Electrical Print Reading DC Power Sources AC Power Sources Conductor Selection Limit Switches and Proximity</p>	<p>Sensors Hydraulic Power Variables Hydraulic Power Sources Pneumatic Power Variables Pneumatic Power Sources Hydraulic Control Valves Hydraulic Schematics and Basic Circuit Design Pneumatic Control Valves</p>	<p>Pneumatic Schematics and Circuit Design Actuator Applications Hydraulic Fluid Selection Contamination and Filter Selection Hydraulic Principles and System Design Welding Safety Essentials</p>	<p>PPE for Welding Welding Fumes and Gases Safety Electrical Safety for Welding Introduction to Welding Introduction to Welding Processes Overview of Soldering Plasma Cutting</p>	<p>SAW Applications GMAW Applications What Is Oxyfuel Welding? Oxyfuel Welding Applications Relays, Contractors, and Motor Starters Control Devices Distribution Systems</p>
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To begin your training program or for more information, call Northwest State Community College at **419-267-1332** or email **cts.archbold@northweststate.edu**