CIFT

PROFESSIONAL DEVELOPMENT
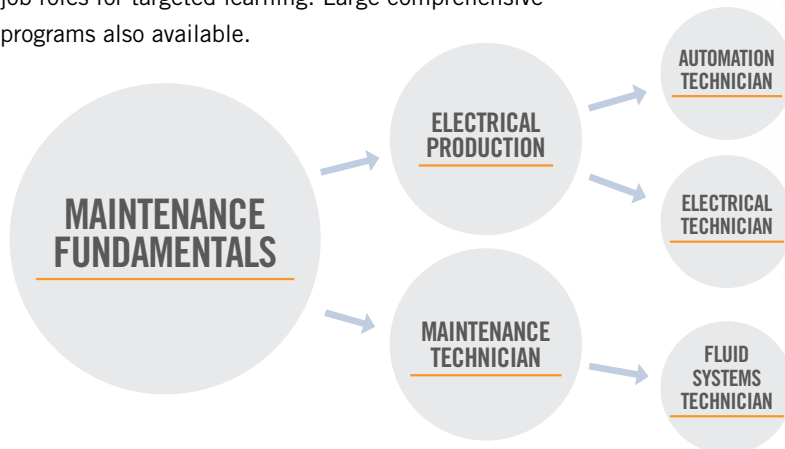
LEARNING PLANS FOR MANUFACTURING JOB ROLES

Online Training from CIFT 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 MAINTENANCE JOB ROLES

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

MAINTENANCE FUNDAMENTALS

ELECTRICAL PRODUCTION → AUTOMATION TECHNICIAN

ELECTRICAL PRODUCTION → ELECTRICAL TECHNICIAN

MAINTENANCE TECHNICIAN → FLUID SYSTEMS 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

TOOLINGU | sme

Ohio Manufacturing Extension Partnership

CIFT

PART OF THE MEP National Network

To begin your training program or for more information, contact Cathy Witte at **(419) 535-6000 Ext. 142** or **cwitte@ciftinnovation.org**

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

MAINTENANCE

MAINTENANCE FUNDAMENTALS

Electrical Units
Safety for Electrical Work
Basic Measurement
Basics of Tolerance
Blueprint Reading
Calibration Fundamentals
Hole Standards and Inspection

Thread Standards and Inspection
5S Overview
Lean Manufacturing Overview
Ferrous Metals
Introduction to Mechanical Properties
Introduction to Metals

Introduction to Physical Properties
Forces of Machines
Introduction to Mechanical Systems
Safety for Mechanical Work
Approaches to Maintenance
ISO 9001 Review

Bloodborne Pathogens
Confined Spaces
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
Respiratory Safety
Safety for Lifting Devices

SDS and Hazard Communication
Walking and Working Surfaces
Math Fundamentals
Math: Fractions and Decimals
Units of Measurement

ELECTRICAL PRODUCTION

Control Panel Functions for the CNC Lathe
Control Panel Functions for the CNC Mill
Introduction to CNC Machines
AC Fundamentals
Conductor Selection

DC Circuit Components
Electrical Instruments
Electrical Print Reading
Introduction to Circuits
Introduction to Magnetism
NEC(R) Overview

Parallel Circuit Calculations
Series Circuit Calculations
Troubleshooting
Essentials of Heat Treatment of Steel
Lubricant Fundamentals

Control Devices
Distribution Systems
Introduction to Electric Motors
Limit Switches and Proximity Sensors
Logic and Line Diagrams

Relays, Contactors, and Motor Starters
Algebra Fundamentals
Geometry: Circles and Polygons
Geometry: Lines and Angles
Geometry: Triangles

Trigonometry: Sine, Cosine, Tangent
Trigonometry: The Pythagorean Theorem
Essentials of Communication
Essentials of Leadership
Overview of Soldering

MAINTENANCE PRODUCTION

Battery Selection
Parallel Circuit Calculations
Series Circuit Calculations
Introduction to Fastener Threads
Overview of Non-Threaded Fasteners
Overview of Threaded Fasteners
Threaded Fastener Selection

Tools for Threaded Fasteners
Understanding Torque
Fittings for Fluid Systems
Introduction to Fluid Conductors
Introduction to Hydraulic Components
Introduction to Pneumatic Components
Preventive Maintenance for Fluid Systems

Safety for Hydraulics and Pneumatics
The Forces of Fluid Power
Troubleshooting
Essentials of Heat Treatment of Steel
Nonferrous Metals
Bearing Applications
Belt Drive Applications
Clutch and Brake Applications

Gear Applications
Lubricant Fundamentals
Mechanical Power Variables
Spring Applications
AC Motor Applications
DC Motor Applications
Distribution Systems
Introduction to Electric Motors
Logic and Line Diagrams
Reduced Voltage Starting

Reversing Motor Circuits
Solenoids
Specs for Servomotors
Symbols and Diagrams for Motors
Intro to Machine Rigging
Rigging Equipment
Rigging Inspection and Safety
Rigging Mechanics
Algebra Fundamentals

Geometry: Circles and Polygons
Geometry: Lines and Angles
Geometry: Triangles
Trigonometry: Sine, Cosine, Tangent
Trigonometry: The Pythagorean Theorem
Essentials of Communication
Essentials of Leadership

AUTOMATION TECHNICIAN

Introduction to Fastener Threads
Overview of Non-Threaded Fasteners
Overview of Threaded Fasteners
Threaded Fastener Selection
Tools for Threaded Fasteners
Understanding Torque
Fittings for Fluid Systems

Introduction to Fluid Conductors
Introduction to Hydraulic Components
Introduction to Pneumatic Components
Safety for Hydraulics and Pneumatics
The Forces of Fluid Power
Bearing Applications

Belt Drive Applications
Clutch and Brake Applications
Gear Applications
Mechanical Power Variables
Spring Applications
Basic Programming for PLCs
Basics of Ladder Logic
Data Manipulation
Hand-Held Programmers of PLCs

Hardware for PLCs
Introduction to PLCs
Networking for PLCs
Numbering Systems and Codes
Overview of PLC Registers
PID for PLCs
PLC Counters and Timers
PLC Inputs and Outputs
PLC Installation Practices

PLC Program Control Instructions
Sequencer Instructions for PLCs
Intro to Machine Rigging
Rigging Equipment
Rigging Inspection and Safety
Rigging Mechanics
Concepts of Robot Programming

End Effectors
Robot Axes
Robot Components
Robot Installations
Robot Maintenance
Robot Safety
Robot Sensors
Robot Troubleshooting
Vision Systems

ELECTRICAL TECHNICIAN

Battery Selection
Introduction to Fastener Threads
Overview of Non-Threaded Fasteners
Overview of Threaded Fasteners

Threaded Fastener Selection
Tools for Threaded Fasteners
Understanding Torque
Fittings for Fluid Systems
Introduction to Fluid Conductors

Introduction to Hydraulic Components
Introduction to Pneumatic Components
Safety for Hydraulics and Pneumatics
The Forces of Fluid Power

Nonferrous Metals
Bearing Applications
Belt Drive Applications
Clutch and Brake Applications
Gear Applications
Mechanical Power Variables
Spring Applications

AC Motor Applications
DC Motor Applications
Distribution Systems
Reduced Voltage Starting
Reversing Motor Circuits
Solenoids
Specs for Servomotors

Symbols and Diagrams for Motors
Intro to Machine Rigging
Rigging Equipment
Rigging Inspection and Safety
Rigging Mechanics

FLUID SYSTEMS TECHNICIAN

Control Panel Functions for the CNC Lathe
Introduction to CNC Machines
AC Fundamentals
AC Power Sources
Conductor Selection
DC Circuit Components
DC Power Sources
Electrical Instruments

Electrical Print Reading
Introduction to Circuits
Introduction to Magnetism
NEC(R) Overview
Actuator Applications
Contamination and Filter Selection
Hydraulic Control Valves
Hydraulic Fluid Selection

Hydraulic Power Sources
Hydraulic Power Variables
Hydraulic Principles and System Design
Hydraulic Schematics and Basic Circuit Design
Pneumatic Control Valves
Pneumatic Power Sources
Pneumatic Power Variables

Pneumatic Schematics and Basic Circuit Design
Benchwork and Layout Operations
Control Devices
Distribution Systems
Limit Switches and Proximity Sensors

Relays, Contactors, and Motor Starters
Electrical Safety for Welding
GMAW Applications
Introduction to Welding
Introduction to Welding Processes
Overview of Soldering

Oxyfuel Welding Applications
Plasma Cutting
PPE for Welding
SMAW Applications
Welding Fumes and Gases Safety
Welding Safety Essentials
What Is Oxyfuel Welding?

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