

### 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 WELDING JOB ROLES

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

WELDING

GMAW/FCAW/ SUBMERGED ARC/ GTAW/SMAW WELDING

> GTAW WELDING

FABRICATION AND REPAIR

WELDING FUNDAMENTALS SMAW WELDING

> GMAW/FCAW/ SUBMERGED ARC WELDING

## Online Training offers:

- Content developed by industry experts
- Accessible anytime, anywhere
- Self-paced

WELDING

- 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





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.

## WELDING

#### WELDING FUNDAMENTALS

Introduction to CAD and CAM for Machining
Blueprint Reading

Safety for Metal Cutting Bloodborne Pathogens Confined Spaces Environmental Safety Hazards Ergonomics
Fire Safety and Prevention
Flammable/Combustible Liquids
Hand and Power Tool Safety
Intro to OSHA

Lockout/Tagout Procedures Machine Guarding 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
Units of Measurement
Electrical Safety for Welding
Geometry Fundamentals for Welding
Math Fundamentals for Welding
Overview of Weld Defects
Oxyfuel Cutting Applications

Plasma Cutting
PPE for Welding
Thermal Cutting Overview
Welding Furnes and Gases Safety
Welding Safety Essentials
Welding Symbols and Codes

#### **GMAW FCAW SUB ARC**

AC Fundamentals
AC Power Sources
Battery Selection
Conductor Selection
DC Circuit Components
DC Power Sources
Electrical Instruments

Electrical Print Reading

Electrical Units Introduction to Circuits Introduction to Magnetism NEC(R) Overview Parallel Circuit Calculations Safety for Electrical Work Series Circuit Calculations Total Productive Maintenance Troubleshooting Ferrous Metals Introduction to Metals Nonferrous Metals Safety for Mechanical Work Approaches to Maintenance Essentials of Communication
Personal Effectiveness
Advanced GMAW Applications
Electrical Power for Arc Welding
FCAW Applications
GMAW Applications
Introduction to FCAW

Introduction to GMAW
Introduction to Welding
Introduction to Welding Processes
Material Tests for Welding
Overview of Weld Types
Welding Ferrous Metals
Welding Nonferrous Metals

#### **GTAW**

AC Fundamentals
AC Power Sources
Battery Selection
Conductor Selection
DC Circuit Components
DC Power Sources
Electrical Instruments
Electrical Print Reading

Electrical Units
Introduction to Circuits
Introduction to Magnetism
NEC(R) Overview
Parallel Circuit Calculations
Safety for Electrical Work
Series Circuit Calculations

Total Productive Maintenance
Troubleshooting
Classification of Steel
Exotic Alloys
Ferrous Metals
Introduction to Mechanical Properties
Introduction to Metals

Introduction to Physical Properties Nonferrous Metals Safety for Mechanical Work Approaches to Maintenance Essentials of Communication Personal Effectiveness GTAW Applications

Introduction to GTAW
Introduction to Welding
Introduction to Welding Processes
Material Tests for Welding
Overview of Weld Types
Welding Ferrous Metals
Welding Nonferrous Metals

#### **SMAW**

AC Fundamentals
AC Power Sources
Battery Selection
Conductor Selection
DC Circuit Components
DC Power Sources
Flectrical Instruments

Electrical Print Reading
Electrical Units
Introduction to Circuits
Introduction to Magnetism
NEC(R) Overview
Parallel Circuit Calculations
Safety for Electrical Work

Total Productive Maintenance
Troubleshooting
Ferrous Metals
Introduction to Mechanical Properties
Introduction to Metals
Introduction to Physical Properties

Series Circuit Calculations

Nonferrous Metals
Safety for Mechanical Work
Approaches to Maintenance
Essentials of Communication
Personal Effectiveness
Electrical Power for Arc Welding
Introduction to SMAW

Introduction to Welding
Introduction to Welding Processes
Material Tests for Welding
Overview of Weld Types
SMAW Applications
Welding Ferrous Metals
Welding Nonferrous Metals

#### FABRICATION AND REPAIR

Introduction to Assembly
Safety for Assembly
Classification of Steel
Essentials of Heat Treatment of Steel
Band Saw Operation
Algebra Fundamentals

Applied and Engineering Sciences Geometry: Circles and Polygons Geometry: Lines and Angles Geometry: Triangles Math Fundamentals Math: Fractions and Decimals

Statistics
Trigonometry: Sine Bar Applications
Trigonometry: Sine, Cosine, Tangent
Trigonometry: The Pythagorean
Theorem

Theorem
Conflict Resolution for Different
Groups

Conflict Resolution Principles Essentials of Leadership Team Leadership Fabrication Process Fixture Body Construction Fixture Design Basics

Introduction to Workholding Locating Devices Supporting and Locating Principles



