WELDING



Tennessee Manufacturing Extension Partnership

PROFESSIONAL DEVELOPMENT

LEARNING PLANS FOR MANUFACTURING JOB ROLES

Training Packages from Tooling U-SME offer quickstart, progressive road maps in various functional areas that allow manufacturers to build career paths for employees. They are intended to enhance your existing OJT and help you create a job progression plan. Unlike many other training programs, these packages require minimal preparation. They are efficient, effective training, 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 are also available.

WELDING



WELDING

FUNDAMENTALS

GTAW WELDING

SMAW

WELDING

FABRICATION

AND REPAIR

GMAW/FCAW/

GMAW/FCAW/ SUBMERGED ARC WELDING

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



Center for Industrial Services Tennessee Manufacturing Extension Partnership Website: tmep.cis.tennessee.edu Contact: tmep@tennessee.edu

WELDING

WELDING FUNDAMENTALS

Introduction to CAD and CAM for Machining Blueprint Reading Safety for Metal Cutting Bloodborne Pathogens Confined Spaces Environmental Safety Hazards

GMAW FCAW SUB ARC

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

GTAW

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

SMAW

- 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 NFC(R) Overview Parallel Circuit Calculations Safety for Electrical Work

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 Conflict Resolution for Different Groups

Essentials of Communication Personal Effectiveness Electrical Power for Arc Welding Introduction to SMAW

Conflict Resolution Principles

Essentials of Leadership

Fixture Body Construction

Team Leadership

Eabrication Process

Fixture Design Basics

Nonferrous Metals

Safety for Mechanical Work

Approaches to Maintenance

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

Introduction to Workholding Locating Devices Supporting and Locating Principles

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



Center for Industrial Services INSTITUTE for PUBLIC SERVICE

Tennessee Manufacturing **Extension Partnership**

Website: tmep.cis.tennessee.edu Contact: tmep@tennessee.edu

Ergonomics Fire Safety and Prevention Flammable/Combustible Liquids Hand and Power Tool Safety Intro to OSHA Lockout/Tagout Procedures Machine Guarding

Electrical Units

NFC(R) Overview

Electrical Units

NEC(R) Overview

Introduction to Circuits

Introduction to Magnetism

Parallel Circuit Calculations

Safety for Electrical Work

Series Circuit Calculations

Introduction to Circuits

Introduction to Magnetism

Parallel Circuit Calculations

Safety for Electrical Work

Series Circuit Calculations

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

Essentials of Communication

Advanced GMAW Applications

Electrical Power for Arc Welding

Personal Effectiveness

FCAW Applications

GMAW Applications

Introduction to FCAW

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

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

Introduction to GTAW

Introduction to Welding

Material Tests for Welding

Overview of Weld Types

Welding Ferrous Metals Welding Nonferrous Metals

Introduction to Welding

Introduction to Welding Processes

Troubleshooting Ferrous Metals Introduction to Metals Nonferrous Metals Safety for Mechanical Work Approaches to Maintenance

Ferrous Metals

Series Circuit Calculations

Troubleshooting

Ferrous Metals

Introduction to Metals

Total Productive Maintenance

Introduction to Mechanical Properties

Introduction to Physical Properties

Total Productive Maintenance Troubleshooting Classification of Steel Exotic Allovs

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

Introduction to Mechanical Properties Introduction to Metals

GTAW Applications

Total Productive Maintenance