



PROFESSIONAL DEVELOPMENT

LEARNING PLANS FOR MANUFACTURING JOB ROLES

Training Packages from Tooling U-SME offer quick-start, 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 MACHINING JOB ROLES

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

MACHINING FUNDAMENTALS

GRINDING TECHNICIAN

TOOLMAKER/ DIEMAKER

PRODUCTION MACHINIST

CNC

PROGRAMMER

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





MACHINING

MACHINING FUNDAMENTALS

Basic Measurement
Basics of Tolerance
Blueprint Reading
Calibration Fundamentals
Hole Standards and Inspection
Thread Standards and Inspection

Lean Manufacturing Overview

Essentials of Heat Treatment of Steel Ferrous Metals Introduction to Mechanical Properties Band Saw Operation Basic Cutting Theory Cutting Processes Introduction to Metal Cutting Fluids Metal Cutting Fluid Safety Overview of Machine Tools ISO 9001 Review Bloodborne Pathogens Fire Safety and Prevention Hand and Power Tool Safety Intro to OSHA Lockout/Tagout Procedures

Noise Reduction and Hearing Conservation

Personal Protective Equipment
Powered Industrial Truck Safety
Safety for Lifting Devices
SDS and Hazard Communication
Walking and Working Surfaces
Geometry: Circles and Polygons Geometry: Lines and Angles Geometry: Triangles Math Fundamentals Math: Fractions and Decimals Trigonometry: Sine, Cosine, Tangent Units of Measurement

GRINDING TECHNICIAN

Basic Grinding Theory
Basics of the Centerless Grinder
Basics of the Cylindrical Grinder
Basics of the Surface Grinder
Centerless Grinder Operation
Cylindrical Grinder Operation
Dressing and Truing
Grinding Ferrous Metals

Grinding Nonferrous Metals Grinding Processes Grinding Safety Grinding Variables Grinding Wheel Geometry Grinding Wheel Materials Introduction to Grinding Fluids Setup for the Centerless Grinder Setup for the Cylindrical Grinder Setup for the Surface Grinder Surface Grinder Operation Basics of G Code Programming Introduction to CNC Machines Introduction to Fastener Threads Introduction to GD&T Major Rules of GD&T Surface Texture and Inspection Metrics for Lean Process Flow Charting SPC Overview Strategies for Setup Reduction Troubleshooting Essentials of Communication

Essentials of Leadership

Chucks, Collets, and Vises Clamping Basics Locating Devices Supporting and Locating Principles

MACHINE OPERATOR

Basics of G Code Programming Basics of the CNC Lathe Basics of the CNC Mill Control Panel Functions for the CNC Lathe Control Panel Functions for the CNC Mill Coordinates for the CNC Lathe Coordinates for the CNC Mill Introduction to CNC Machines Offsets on the CNC Lathe Offsets on the CNC Mill Introduction to Fastener Threads Surface Texture and Inspection SPC Overview
Benchwork and Layout Operations
Engine Lathe Basics
Engine Lathe Operation
Engine Lathe Setup
Holemaking on the Manual Mill
Manual Mill Basics

Manual Mill Operation
Manual Mill Setup
Classification of Steel
Intro to EDM
Safety for Metal Cutting
Machine Guarding
Chucks, Collets, and Vises

Clamping Basics Locating Devices Supporting and Locating Principles

CNC PROGRAMMER

Calculations for Programming the Lathe

Calculations for Programming the Mill Canned Cycles for the Lathe Canned Cycles for the Mill Creating a CNC Milling Program
Creating a CNC Turning Program
Introduction to CAD and CAM
for Machining
In-Line Inspection Applications

Introduction to GD&T Major Rules of GD&T Intro to Six Sigma Metrics for Lean Introduction to Metals Speed and Feed for the Lathe Speed and Feed for the Mill Quality and Customer Service

Automated Systems and Control Robot Axes

PRODUCTION MACHINIST

Calculations for Programming the Lathe Calculations for Programming the Mill

Canned Cycles for the Lathe Canned Cycles for the Mill Creating a CNC Milling Program Creating a CNC Turning Program Introduction to GD&T Major Rules of GD&T Metrics for Lean Process Flow Charting Strategies for Setup Reduction Troubleshooting
Taper Turning on the Engine Lathe
Threading on the Engine Lathe
ANSI Insert Selection
Basic Cutting Theory
Carbide Grade Selection

Cutting Tool Materials
Drill Tool Geometry
Impact of Workpiece Materials
Lathe Tool Geometry
Mill Tool Geometry
Optimizing Tool Life and Process

Speed and Feed for the Lathe Speed and Feed for the Mill Essentials of Communication Essentials of Leadership

TOOLMAKER AND DIEMAKER

Basic Grinding Theory
Basics of the Cylindrical Grinder
Basics of the Surface Grinder
Cylindrical Grinder Operation

Dressing and Truing Grinding Ferrous Metals Grinding Nonferrous Materials Grinding Processes Grinding Safety Grinding Variables Grinding Wheel Geometry Grinding Wheel Materials Introduction to Grinding Fluids Setup for the Cylindrical Grinder Setup for the Surface Grinder Surface Grinder Operation Die Cutting Variables Material Tests for Welding Fixture Design Basics

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



