

PROGRAM COMPETENCIES

SAFETY

OSHA 10-Hour Safety Certification

Machine Shop Safety (Personal)

Machine Safety (Machine)

Manual Machining Safety Skills

Welding Safety Skills

Introduction to Hand Tools

Introduction to Precision Tools

Introduction to Engine Lathe, Milling Mach.,
Saws (Vert/Horiz), Drill Press & Surface Grinder

Machine Shop Nomenclature

Introduction to Mastercam Version X9

Introduction to Welding

Critical Thinking Skills

Tooling University

Speeds and Feeds for Machining Operations

Machine Shop Calculators

Machine Shop Math

Basic Measuring Tools: Rulers, Calipers,
Outside Micrometers, Height Gage, Indicators

Thread Measurement

Layout Skills

Basic Employability Skills

Basic Machine Trades Print Reading

Single Point Threading (Lathe)

Tooling Selection

Job Planning

Basic Design Skills

Heat Treating

Summer Internship

Cartesian Coordinate System

Introduction to Computer Numerical Control Machining

PROGRAM COMPETENCIES

SAFETY

- Machine Shop Safety
- First Aid, AED & CPR Adult/Infant Certification
- Computer Numerical Control (CNC) Safety Skills

Level 2 Cam Instructor Mastercam Toolpath Creation, 3D Geometry Creation
Advanced Design Skills

Geometric Dimensioning and Tolerancing (GD&T)

Cam Instructor Mastercam X9 Training Guide (3D)

Haas Tech VF-1 and TL-1 Training Guide (HTEC)

Absolute & Incremental Positioning

CNC Program Start-Up and Ending

CNC Work Coordinate Selection

CNC Canned Cycles

Advanced Machine Trades Print Reading

Jig & Fixture Design/Building

EDM (Sinker)

Tooling University

Welding

Introduction to Computer Numerical Control Machining

Coordinates, Axes, and Motion

CNC Systems

CNC Controls

Operating a CNC Machine Lathe and Mill

Program Planning

Level-One Programming

Level-Two Programming

Setting Up a CNC Machine Lathe and Mill

G&M Code Programming

Linear and Circular Interpolation

CNC Mill Operation

CNC Lathe Operation