



SMCSI - Basic CNC Machining Mill Course

Southern Michigan

CENTER FOR SCIENCE AND INDUSTRY

Adult/Corporate Training Location – 550 E. Main Street, Hudson, MI 49247

Curriculum: Our curriculum introduces basic measurement, precision measurement tools, and dimensional gauging. Learners will cover concepts such as S.I. Measurement, U.S. Customary Measurements, Tape Measure and Measurement Conversion. Applications taught include using a dial caliper, digital caliper, English micrometer, and metric micrometer. Dimensional Gauging will include an introduction to gauging as well as indicator measurement and data collection. Metrology provides an overview of concepts in control chart analysis and operation, SPC, geometric dimensioning and tolerance, and location, orientation, and form tolerances.

The Basic CNC Machining Mill Course focuses on the purpose, common components, functions, and operations of the CNC. The learner learns how to use the Screen Control and soft keys to navigate commonly used screens and how to read and interpret the information on the screens. Provides practical knowledge of how to perform common operations and troubleshooting tasks using the CNC mill.

Timeline for Completion: Minimum number of hours to complete is 100 hours. This course contains approximately 100 hours of instructor-led classroom which includes hands-on learning.

Skills gained:

- Basic Blueprint Reading
- Third Angle Orthographic Projection
- Line Types
- Section Views
- Precision Measurement Tools
- Go/No Go Gauges
- Power up/Power down procedures for the machines
- Gage Care & Corrosion Protection Practices
- Home machine
- Understand offsets and how they are used and entered
- Loading/unloading of parts
- Fixturing & machining of parts
- Understanding canned cycles and when/why they are used
- Understanding and applying speeds and feeds to programs

Industry recognized certification: SMCSI Basic CNC Mill Machine Operator including Quality Control (QC)/Metrology Certification

Current employer relationships and techniques used to connect students with jobs: SMCSI staff continuously contacts industry and develop relationships by listening to what the industry needs are, by meeting or exceeding those needs with our customized curriculums. SMCSI utilizes blended learning techniques which enable them to help streamline students' education in a particular field as well as customize the training in that field to align with the employers' specific needs.