

# CNC Machining Academy

Are you ready to turn your passion into a promising career? Look no further than CNC Machining Academy! This intensive 3-week program offers high school students ages 15+ a unique opportunity to dive headfirst into the world of Computer Numeric Controls while earning a competitive wage.



**June 23-  
July 17, 2025**



**9:00AM - 3:00PM  
MONDAY - THURSDAY**



**Industrial Arts Institute**  
20902 Washington St.,  
Onaway, MI

**FRIDAY BUSINESS IMMERSION TRIPS JULY 11, 18, 2025**

All participants must attend a mandatory interview and informational session on **May 29 at 6:30pm** at the Industrial Arts Institute in Onaway.

- Learn Mastercam software for designing and generating toolpaths for CNC mills and lathes.
- Gain hands-on experience setting up and operating CNC machines.
- Earn industry-recognized certifications, including:
  - Haas Basic Mill Certificate
  - Haas Basic Lathe Certificate
  - 3 Precision Measurement Certificate
  - Precision Measuring Instruments
- Engage with local industry through business immersion trips.

**REGISTRATION OPENS  
April 25, 2025**

Register at [bit.ly/41LEe9s](https://bit.ly/41LEe9s)

***This academy is open to COPESD students entering grades 10, 11 or 12 in fall 2025 and who are at least 15 years old.***

Beyond mastering essential CNC machining skills, participants will engage in a variety of enriching activities to enhance their overall readiness for the workforce. These include:



Safety workshops  
with MIOSHA



Apprenticeship  
seminar



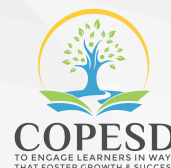
Financial literacy  
seminars



Business  
immersion trips



Employability skill  
development



# Weekly Schedule Breakdown

**Daily Schedule: 6 hours/day**

**Morning (3 hours):** Theory (certifications content, CAD/CAM with Mastercam, precision measurement)

**Afternoon (3 hours):** Hands-on practice (mac. setup, CNC operation, measurement exercises)

**Clothing required for safety:** Leather shoes/boots, short sleeve shirts, no hoodies

## Foundations of CNC Machining and Measurement

**Focus:** Basics of machining, Mastercam, and measurement tools

### Day 1-2:

- Program Orientation and Safety Overview
- Introduction to CNC machining and Mastercam basics
- Overview of Haas Basic Mill Certificate and NC3 Precision Measurement Certificate

### Day 3-4:

- Mastercam: Creating simple 2D designs and toolpaths for milling
- Introduction to precision measurement tools (calipers, micrometers, gauges)
- Hands-on: Measurement exercises and basic part inspection

### Day 5:

- Machine setup for milling: Tool and stock loading, offsets
- Running simple Mastercam toolpaths on the mill
- Precision measurement integration for part validation
- Field Trip: Visit a local machine shop focused on milling operations

## Advanced CNC and Measurement Techniques

**Focus:** Lathe operations and integrating Mastercam with measurement workflows

### Day 6-7:

- Introduction to Haas Basic Lathe Certificate modules
- Mastercam: Designing turned parts and generating lathe toolpaths
- Measurement exercises: Understanding tolerances and quality checks

### Day 8-9:

- Advanced Mastercam for milling: Contouring, pocketing, and toolpath optimization
- In-process measurement: Checking dimensions during machining
- Hands-on: Running more complex operations on mill and lathe

### Day 10:

- NC3 Precision Measurement certification review and assessments
- Incorporating measurements into part production
- Field Trip: Visit a shop specializing in precision machining or metrology labs.

## Project Development and Certification

**Focus:** Projects, certification preparation, and showcasing skills

### Day 11-12:

- Independent project design in Mastercam: Combining mill and lathe components
- Simulate toolpaths and finalize designs for machining
- Precision measurement integration into project workflows

### Day 12-14:

- Manufacture student-designed parts using mill and lathe
- Review and complete Haas Basic Mill/Lathe Certificates
- NC3 Precision Measurement Certification assessments (if needed)

### Day 15:

- Showcase projects with completed parts and measurement reports
- Graduation ceremony and recognition of all certifications
- Field Trip: Visit a high-tech CNC or metrology-focused facility.

WEEK 1

WEEK 2

WEEK 3