



COURSE SYLLABUS
PRECISION MACHINE TECHNOLOGY II
Fall 2021

PROGRAM TITLE: Precision Machine Technology II

DOE CODE: 5784

RECOMMENDED GRADE LEVELS: 12

PREREQUISITES: Precision Machine Technology I

HIGH SCHOOL CREDITS: 3 per semester (6 total per school year)

QR: This program qualifies as a quantitative reasoning course.

ELECTIVE INFORMATION: Counts as a Directed Elective or Elective for all diplomas

HOW WCC CAN HELP MEET GRADUATION PATHWAYS:

Pathway 1 High School Diploma = Directed Electives

Pathway 2 Employability Skills = Work-Based Learning

Pathway 3 Postsecondary Ready = CTE Concentrator

Pathway 3 Postsecondary Ready = Dual Credit

Pathway 3 Postsecondary Ready = Industry-Recognized Certification

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PROGRAM DESCRIPTION: Precision Machine Technology II is a more in-depth study of skills learned in Precision Machine Technology I, with a stronger focus in CNC setup, programming, and operation. Projects concentrate on precision set-up and inspection work as well as machine shop calculations. Students develop skills in advanced machining and measuring parts involving tighter tolerances and more complex geometry. Students completing this program generally continue their education at the postsecondary level in 2 and 4-year degree programs or begin their careers in machining companies. Students also enter apprenticeship programs for specific machining-related trades.

MAJOR LEARNING OBJECTIVES:

1. Develop skills for project and job planning to ensure quality parts creation.
2. Apply and adapt basic hand and machine tool processes to create machined parts per industry specifications.
3. Assess quality control and inspection processes to ensure compliance with industry and national standards.
4. Integrate preventative maintenance schedules and tasks into daily class activities to ensure safe and accurate equipment usage.
5. Apply concepts of industrial safety and recycling to meet industry and governmental environmental protection regulations and standards.
6. Communicate using appropriate subject terminology and definitions both in writing and speaking to ensure the accurate reflection of ideas.
7. Select appropriate mathematical functions to perform various machining processes.
8. Create products within specified dimensions.
9. Perform proper measurement procedures using appropriate instruments to ensure finished products meet given specifications.
10. Examine material properties and tooling processes to create finished products.
11. Establish a personal and professional career development plan.

REQUIRED TEXT/CURRICULUM MATERIALS:

- Tooling U Online Learning; Tooling University LLC

EARLY COLLEGE PROGRAM:

Whitewater Career Center is an Early College Career Center. Precision Machine Technology students may earn the Ivy Tech Machine Tool Technology Certificate by completing all dual credit courses available in Precision Machine Technology I and II.

DUAL CREDITS AVAILABLE:

MTTC 105 Abrasive Processes I
Ivy Tech Community College 3 credits
Co-requisite applies. Qualifies for THD and Pathway Dual Credits.

MTTC 106 Print Interpretation
Ivy Tech Community College 3 credits
Qualifies for THD and Pathways Dual Credits.

MTTC 107 CNC Setup & Operations I
Ivy Tech Community College 3 credits
Co-requisite applies. Qualifies for THD and Pathway Dual Credits.

MTTC 208 CNC Mill Programming (*Pending Ivy Tech Approval*)
Ivy Tech Community College 3 credits
Teacher recommendation required. Qualifies for THD and Pathway Dual Credits.

MTTC 209 CNC Lathe Programming (*Pending Ivy Tech Approval*)
Ivy Tech Community College 3 credits
Teacher recommendation required. Qualifies for THD and Pathway Dual Credits.

INDUSTRY CERTIFICATION AVAILABLE:

NIMS (National Institute for Metalworking Skills) Certifications
Testing required. Fees may apply. Qualifies for THD and Pathway Industry-Recognized Certification.

METHODS OF INSTRUCTIONAL DELIVERY:

This course will be delivered using a variety of delivery methods. Lecture, class discussion, lab work, and individual and group exercises and activities will be used to deliver the class material.

EVALUATION METHODS:

- Classroom work
- Lab work
- Dual credit course projects and exams
- Certification exams
- Participation and attendance

GRADING SCALE:

A+	99-100%	C+	78-79%
A	92-98%	C	72-77%
A-	90-91%	C-	70-71%
B+	88-89%	D+	68-69%
B	82-87%	D	62-67%
B-	80-81%	D-	60-61%
		F	59% and below

REQUIRED CONSUMABLE MATERIALS AND EQUIPMENT:

- Student kit

CLASS POLICIES:

1. Attend each day.
2. Communicate with your teacher when needed.
3. Put forth a good effort each day.
4. Stay on task.
5. Work well in assigned teams.
6. Do the work assigned in a timely manner.