



# PRECISION MACHINE TECHNOLOGY

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## PROGRAM OVERVIEW

Precision Machining is designed to provide students with a basic understanding of the precision machining processes used in industry, manufacturing, maintenance, and repair. The program provides instruction and lab experience in hand and machine tools, measurement, and layout. Students become familiar with print reading and with the setup and operation of drill presses, lathes, milling machines, and grinders. Students are also introduced to CNC (computer numerical control) machine operation, programming and setup. In year two, Students develop skills in advanced machining and measuring parts involving tighter tolerances and more complex geometry.

## YOU WILL LEARN

- How to machine complex projects using tight tolerances
- How to use lathes, mills, drill presses, & surface grinders
- How to read part prints
- How to measure & check quality
- CNC set-up, programming, & operation

## GET YOURSELF READY

To be successful, do well in all academic classes, be on track for graduation, and have a good work ethic. The following courses will help prepare you for the Precision Machine Technology program:

- Preparing for College and Careers
- Introduction to Manufacturing
- Other Technology Courses



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## CERTIFICATIONS & DUAL CREDITS

### NIMS (National Institute for Metalworking Skills)

#### Ivy Tech Dual College Credits

MTTC 101	Introduction to Machining	3 credits
MTTC 102	Turning Processes I	3 credits
MTTC 103	Milling Processes I	3 credits
MTTC 110	Turning & Milling Processes	3 credits
MTTC 105	Abrasive Processes I	3 credits
MTTC 106	Print Interpretation	3 credits
MTTC 107	CNC Setup & Operations I	3 credits
MTTC 208	CNC Mill Programming	3 credits
MTTC 209	CNC Lathe Programming	3 credits

\* Dual credits offered are subject to change before the 2022-2023 year due to change in state requirements.

Industry certifications are earned in year two  
Dual credits are earned during year one and two

Earn the Ivy Tech Certificate in Machine Tool Technology at WCC. Take dual credit classes at your high school to work towards the next steps of a Technical Certificate and/or Associate in Applied Science in Machine Tool Technology at Ivy Tech:

- Dual Credit Speech
- Dual Credit Math
- Dual Credit English
- Dual Credit Physical Science

## NEXT CAREER STEPS

Students completing this program generally continue employment at the company where they completed their internships. They may also participate in apprenticeship programs through their employers to complete degree programs. Others continue their education at the postsecondary level in 2 and 4-year degree programs, begin their careers in local machining businesses, or join the military.

## POTENTIAL CAREERS

• Machinist	\$45,450
• Tool & Die Maker	\$56,310
• Industrial Engineering Technician	\$49,400
• General Maintenance & Repair Worker	\$40,590
• Computer-Controlled Machine Tool Operator	\$42,190
• CNC Machine Tool Programmer	\$50,270
• Industrial Machinery Mechanic	\$55,830
• Industrial Production Manager	\$91,010
• Mechanical Engineer	\$83,600

INDIANA MEAN WAGE

All career and salary information is cited from the U.S. Department of Labor Bureau of Labor Statistics, May 2020 State Occupational Employment & Wage Estimates.



## TRANSCRIPT INFORMATION

NEXT LEVEL PROGRAM OF STUDY

Cluster: Advanced Manufacturing Pathway: Precision Machining

### PRECISION MACHINE TECHNOLOGY YEAR I

DOE Course Codes:

7109	Principles of Precision Machining	1 credit per semester
7105	Precision Machining Fundamentals	1 credit per semester
7107	Advanced Precision Machining	1 credit per semester

Co-requisites: Courses must be taken concurrently

Recommended Grade Levels: 11, 12

### PRECISION MACHINE TECHNOLOGY YEAR II

DOE Course Codes:

5784	Precision Machining II	3 credits per semester
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Prerequisite: Year I

Recommended Grade Level: 12

Oct 2021



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