Pine Technical & Community College

Precision Machining

• Associate of Applied Science • Diploma • Certificate

This program is designed to provide students with the skills necessary to gain employment in the manufacturing industry. The courses focus on skills used in a modern machine shop. Blueprint reading, conventional machine tool theory and lab, an introduction to Computer Numerical Control (CNC) and Computer-Aided Design (CAD) are covered in the first year. The second year offers specialized training in Computer-Aided Manufacturing (CAM), quality concepts and CNC programming.

This two-year AAS degree has been designed to transfer credits seamlessly to Bemidji State University (BSU) if you wish to continue your education beyond PTCC.

Recommended Course Sequence for Completion in 2 Years

ASSOCIATE IN APPLIED SCIENCE

Fall Semester 1

*MTTP 1208 Measuring Tools 1
*MTTP 1220 Blueprint Reading I 2
*MTTP 1245 Machining Fundamentals I 4
*MTTP 1256 Applied Machining Theory 3
*COCP 1201 Computer Concepts & Applications 2
◆ENGL 1277 Technical Communications
or ◆ENGL 1276 College Composition 4
Total Credits 16

◆These courses are not required to complete the requirements for the Precision Machining Certificate. They are required for the Diploma or AAS.

Spring Semester 1

*MTTP 1241 Intro to Computer Aided Drawing (CAD) 3
MTTP 1265 Machining Fundamentals II 4
MTTP 1262 Blueprint Reading II 2
MTTP 1279 CNC Set-up & Operate 4
MTTP 2263 Quality in Manufacturing 2
WELD 1570 Metallurgy & Mech. Prop. of Materials 1
Total Credits 16
Precision Machining Certificate Earned!

Fall Semester 2

MTTP 1261 Intro to Computer Aided Machining (CAM) 2
MTTP 1277 Machining Processes 2
MTTP 2255 CNC Programming 5
MTTP 2260 Cutting Tool Technology 1
Technical Elective 3
Total Credits 13
Precision Machining Diploma Earned!

Spring Semester 2

MTTP 2290 Manufacturing Capstone
or MTTP 2268 Machining Internship 3
*MATH 1260 College Algebra
or MATH 1256 Mathematical Thinking 3
MN Transfer Goal Area 1 Elective 3
MN Transfer Goal Area 2-3 or Goal Area 6-10 6
Total Credits 15

TOTAL AAS CREDITS 60
Precision Machining AAS Earned!

*Check with our Transfer Specialist to determine if any knowledge or skills learned outside of the classroom may qualify for Credit for Prior Learning (CPL) college credit.

Career Outlook

Most of the openings in this career will come through replacement of a record number of retiring personnel. CNC machinists produce precision parts using computer-controlled lathes and milling centers and set up and operate a variety of machine tools, using their knowledge of the working properties of metals. Most CNC machinists work in small machining shops or in manufacturing firms that produce durable goods such as industrial machinery, or parts and components for manufactured products. CNC machinist positions are some of the most highly skilled and highly paid jobs in manufacturing.

www.pine.edu/apply

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