



Pine Technical &
Community College

Applied Engineering Technology

- Associate of Applied Science
- Diploma • Certificate

The 60 credit Applied Engineering Technology (AET) associate of applied science degree includes basic engineering principles, computer aided design, project management, industrial processes, production and operations management, and quality control. In PTCC's AET program, the student will be introduced to, and become efficient with computer aided design (CAD) software. Students will focus on building a foundation of knowledge in statics, kinetics, machine design, manufacturing processes, automation and metrology. They will be introduced to complimentary manufacturing functions such as basic machine shop, welding, and automation to provide them with the basic language and skills of these processes needed to make their designs a reality. Students will be able to develop both technical skills and soft skills by working on projects individually and within groups. These projects will simulate projects in industry and cover skills such as project scopes, timelines, system designs, project documentation, and manufacturability of designs.

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

Fall Semester 1

*MTTP 1220 Print Reading 1	2
MTTP 1241 Intro to Computer Aided Design (CAD)	3
AENG 1231 Material & Manufacturing Process	3
MTTP 1201 Basic Machine Shop	3
MATH 2270 Pre-Calculus	5
Total Credits	16

Design Technology Certificate Earned!

Spring Semester 1

AENG 1241 Introduction to Statics	3
AENG 1250 Applied Engineering Design Project	3
AENG 2230 Manufacturing Project Management	3
AENG 1205 Geometric Dimensioning and Tolerancing	2
ENGL 1276 College Composition or ENGL 1277 Technical Communications	4
Total Credits	15

Design Technology Diploma Earned!

Fall Semester 2

AENG 2241 Advanced Computer Aided Design (CAD)	3
AENG 2210 Reverse Engineering	3
ETEC 2522 Fluid Power	2
ETEC 1550 DC Power & Basic Control Circuits	3
ETEC 1551 Programmable Logic Controllers I	3
Total Credits	14

Spring Semester 2

AENG 2220 Machine Design & Kinematics	3
AENG 2250 Applied Engineering Capstone	3
AENG 2215 Prototyping	2
MnTC Goal Area 1-5 Electives	7
Total Credits	15

TOTAL DEGREE CREDITS **60**

Applied Engineering Technology AAS Earned!

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

Career Outlook

Industrial engineering technicians apply engineering theory and principles to problems of industrial layout or manufacturing production, usually under the direction of engineering staff. They may perform time and motion studies on worker operations in a variety of industries for purposes such as establishing standard production rates or improving efficiency. Minnesota ranks as one of the five states with the highest employment level in Industrial Engineering.

www.pine.edu/apply

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