2023-2024

Robotic & Electronic Engineering Technology

Associate of Applied Science (AAS) Degree

Technical Credits.....57
MnTC General Education Credits.....15
Total Credits 72

Program Information

The Anoka Technical College Electronic Engineering Technology (EET) program offers a 72-credit Robotic and Electronic Engineering Technology Associate of Applied Science (AAS) degree that prepares students to work with mechatronics, robotics, automation and controls, computer servicing/networking, and biomedical equipment.

Students gain a thorough understanding of how computers and machines communicate as well as system level troubleshooting, plus a solid education in electronic engineering technology fundamentals.

Students will also learn about:

- Mechatronics
- Lasers and Optics
- Robotics
- Computer Troubleshooting A+
- Networking
- Programmable Logic Controllers (PLCs)
- LabVIEW programming applications
- Motor Control
- Microcontrollers
- Advanced Troubleshooting
- Project Management
- Interpersonal Skills, such as customer service and teamwork

Designed by electronic engineering industry leaders, the program provides a comprehensive, hands-on, career-oriented curriculum. Students will obtain a solid education in electronic engineering fundamentals, mechatronics, robotics, automation and controls, computer servicing/networking and Biomedical Equipment Technician (BMET). Full time students can obtain an Electronic Technician diploma in two semesters, and an associate applied science degree in four semesters. Financial assistance is available for those who qualify and there are several EET program-specific scholarships available.

Program Learning Outcomes

By completing this program, students will achieve the following learning outcomes.

1. Interpersonal and employability skills: Communicate with peers and customers using professional, ethical and appropriate verbal and nonverbal communication skills; by accepting constructive feedback and displaying appropriate behavior; participating as a member of a team, exhibiting leadership and lifelong learning skills.
2. Electronic Theory: Demonstrate a solid understanding of electronics; by interpreting electronic schematics and diagrams; research, organize and interpret information from various technical sources; identifying components; electronic test equipment used by technician in industry.
3. Mechatronic Systems: Convey the understanding of complex relationships between sections of specialized equipment through written, verbal, and/or demonstrative methods.
4. Troubleshooting: Demonstrate principles of troubleshooting and logical diagnosis by using critical thinking skills to define, analyze, and implement a solution.
5. Mechatronic Applications: Evaluate and determine that all mechatronic equipment is in proper working condition, ensuring a safe, reliable manufacturing environment.
6. Safety Compliance: Participate in class in a professional manner, by acting in compliance with documented safety procedures and appropriate industry standards.

Industry and Career Outlook

As part of the Electronic Engineering Technology (EET) program, Robotic and Electronic Engineering Technology (EET) Associate of Applied Science (AAS) degree provides students with the technical knowledge and practical experience necessary for an exciting career in electronics, mechatronics, robotics, automation and controls, computer servicing/networking, Biomedical Equipment Technician (BMET) and engineering support.

Wage information is available from the Minnesota Department of Employment and Economic Development

Program Start Dates

Fall Semester.....August
Spring Semester .....January**

***Students who start in the spring will need more time to complete due to course prerequisites.**

Course Prerequisites

Some courses in this program may require a prerequisite. Please see course descriptions for more details.

MnTC General Education Requirements

This program requires completion of the following fifteen credits of general education from at least three goal areas of the Minnesota Transfer Curriculum (MnTC). Refer to the MnTC course list for elective courses:

☐ MATH 1550 Introduction to Statistics (Goal 4)..... 4
☐ MnTC Electives..... 11

Program Sequence

Fall Semester 16
☐ ETEC 1102 Mechatronics 1 DC.....3
☐ ETEC 1113 Mechatronics 2 AC.....3
☐ ETEC 1141 Circuit Analysis 4
☐ ETEC 1151 Computer Troubleshooting A+.....3
☐ ETEC 1250 Digital 1 3
Spring Semester.....16
☐ BMET 1301 Biomedical Networking.....2
☐ ETEC 1170 Programmable Logic Controllers (PLCs).....2
☐ ETEC 1202 Solid State Electronic Devices.....5
☐ ETEC 1260 Lasers and Optics.....2
☐ ETEC 1271 Technical Documentation 3
☐ ETEC 1281 Engineering Technology Programming: LabVIEW and C++.....2

ANOKA TECHNICAL COLLEGE
A member of Minnesota State

2023-2024

Robotic & Electronic Engineering Technology

Associate of Applied Science (AAS) Degree

Summer Semester 7
☐ MATH 1550 Introduction to Statistics 4
☐ MnTC Elective 3
Fall Semester 16
☐ ETEC 2138 LabVIEW and Data Acquisition 4
☐ ETEC 2143 Advanced Programmable Logic Controllers (PLCs) 3
☐ ETEC 2162 Robotics and Automation Controls 5
☐ ETEC 2276 Industrial Networking IOT/M2M 4
Spring Semester 17
☐ ETEC 2011 Machine-to-Machine Wireless Communications 2
☐ ETEC 2172 Mechatronics Capstone Project 5
☐ ETEC 2177 Mechatronics Capstone Design and Documentation 2
☐ MnTC Electives 8

Graduation Requirements

Students must earn a cumulative 2.0 GPA or higher to be eligible for graduation from this program.

Faculty Contact

Tom Reid 763-576-4139
Daniel Truchon 763-576-4185

For information on how to apply, to schedule a tour, or for service during summer hours, contact Enrollment Services at 763-576-7710 or EnrollmentServices@anokatech.edu

Also see: Biomedical Equipment Technician AAS and Electronic Technology diploma