

**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.

**Course Prerequisites**

Some courses may require appropriate test score or completion of basic math, basic English and/or reading courses with a “C” or better.

**Graduation Requirements**

All Anoka Technical College students seeking an Associate in Applied Science (AAS), diploma, or certificate must meet the cumulative grade point average (GPA) of 2.0 or higher.

**Transfer Opportunities**

For students who want to continue their education and obtain their four-year degree, the Electronic Engineering Technology (EET) program has articulation agreements with Minnesota State University (Mankato), Minnesota State University (Moorhead), Bemidji State University, and University of Minnesota Crookston. Students can complete most of these four-year degrees through online courses.

To see how credits from this program may transfer into other Anoka Technical College programs or into a program at another college, visit:

- [Minnesota Transfer](http://www.mntransfer.org/students/plan/s_agreements.php?numResults=25&archive=false&from_inst=70&from_prog=&to_inst=&Search=Search): (www.mntransfer.org/students/plan/s\_agreements.php?numResults=25&archive=false&from\_inst=70&from\_prog=&to\_inst=&Search=Search)
- [Anoka Technical College transfer student](http://www.anokatech.edu/BecomeStudent/Transfers.aspx) (www.anokatech.edu/BecomeStudent/Transfers.aspx)

**Industry Information**

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.

**Wages/Outlook/Advancement**

Wage information is available from the [Minnesota Department of Employment and Economic Development](https://mn.gov/deed/job-seekers/job-outlook/) (https://mn.gov/deed/job-seekers/job-outlook/).



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# Robotic and Electronic Engineering Technology

Associate of Applied Science (AAS) Degree

### Technical Education: 57 Credits

- BMET 1301 Biomedical Networking..... 2
- ETEC 1102 Mechatronics 1 DC ..... 3
- ETEC 1113 Mechatronics 2 AC ..... 3
- ETEC 1141 Circuit Analysis ..... 4
- ETEC 1151 Computer Troubleshooting A+ ..... 3
- ETEC 1170 Programmable Logic Controllers (PLCs)..... 2
- ETEC 1202 Solid State Electronics ..... 5
- ETEC 1250 Digital 1 ..... 3
- ETEC 1260 Lasers and Optics ..... 2
- ETEC 1271 Technical Documentation ..... 3
- ETEC 1281 Engineering Technology Programming:  
LabVIEW and C++ ..... 2
- ETEC 2011 Machine-to-Machine Wireless  
Communications ..... 2
- ETEC 2138 LabVIEW and Data Acquisition ..... 4
- ETEC 2143 Advanced Programmable Logic  
Controllers (PLCs)..... 3
- ETEC 2162 Robotics and Automation Controls..... 5
- ETEC 2172 Mechatronics Capstone Project ..... 5
- ETEC 2177 Mechatronics Capstone Design  
and Documentation ..... 2
- ETEC 2276 Industrial Networking IOT/M2M ..... 4

### General Education/MnTC Requirements: 15 Credits

Fifteen (15) general education credits of Minnesota Transfer Curriculum (MnTC) are required. MnTC credits must be from three different goal areas. Student is required to take:

- MATH 1550 Introduction to Statistics ..... 4
- General Education/MnTC Courses ..... 11

*Also see: Biomedical Equipment Technician AAS and Electronic Technology diploma*

### Start Dates

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

### 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](mailto:EnrollmentServices@anokatech.edu)

### Sample Program Sequence

Full Time

	Fall Semester	Spring Semester	Summer Semester
<b>1<sup>st</sup> YEAR</b>	ETEC 1102..... 3	BMET 1301..... 2	MATH 1550 ..... 4
	ETEC 1113 ..... 3	ETEC 1170..... 2	Gen Ed/MnTC..... 3
	ETEC 1141 ..... 4	ETEC 1202..... 5	TOTAL..... 7
	ETEC 1151 ..... 3	ETEC 1260..... 2	
	ETEC 1250..... 3	ETEC 1271..... 3	
	TOTAL..... 16	ETEC 1281..... 2	
	TOTAL..... 16		
<b>2<sup>nd</sup> YEAR</b>	Fall Semester	Spring Semester	
	ETEC 2138..... 4	ETEC 2011 ..... 2	
	ETEC 2162..... 5	ETEC 2172..... 5	
	ETEC 2143..... 3	ETEC 2177 ..... 2	
	ETEC 2276..... 4	Gen Ed/MnTC..... 8	
	TOTAL ..... 16	TOTAL ..... 17	

*\*Students who start in the spring will need more time to complete this program. Limited first semester technical courses are offered in the Spring semester.*