MINNESOTA STATE COLLEGE SOUTHEAST

Electrical Engineering Technology

Winona Campus

OVERVIEW

Experience hands-on electrical systems design, development, and troubleshooting with challenging coursework in science, mathematics, and automation.

The 2-year Electrical Engineering Technology degree at Minnesota State College Southeast in Winona will prepare you to enter industry as a front-line engineering technician. These professionals work with technologists, engineers, and management to assist in the design, development, and implementation of systems ranging from printed circuit board assemblies to industrial robots.

You will also have the mathematical and analytical background to pursue a 4-year degree through one of our engineering university partners:

- Milwaukee School of Engineering (MSOE): Bachelor of Science in Electrical Engineering
- Winona State University (WSU): Bachelor of Science in General Engineering

Students have the option to double major in both Electronics Technology and Electrical Engineering Technology, allowing for maximum exposure to laboratory-based electronics principles as well as to physics, calculus, and advanced electronics curriculum.

MAJORS WITHIN

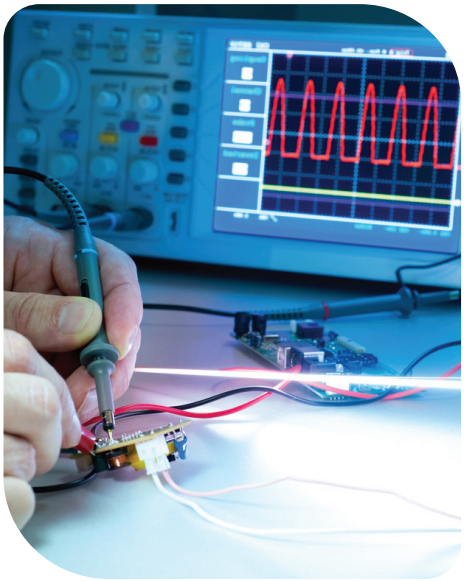
Electrical Engineering Technology AAS 68 credits

Estimated costs for each major including tuition, books and supplies are posted on **southeastmn.edu** under Academics > Academic Programs by Degree.

PROGRAM OUTCOMES

Program graduates will be able to:

1. Understand AC/DC circuit fundamentals.
2. Understand digital circuits and signals.
3. Be proficient in programming and troubleshooting microcontrollers and Programmable Logic Controllers (PLCs).
4. Be competent in solid state component operation, troubleshooting, and implementation (including diodes, BJTs, Op-Amps, and FETs).
5. Prove understanding of physics, calculus, and frequency domain analysis of circuits.
6. Demonstrate comprehensive applied engineering and laboratory based skills



PROGRAM HIGHLIGHTS

A full semester of Industrial A Automation curriculum at Southeast's Industrial Controls Laboratory.

Advanced circuit analysis, electronics, and Programmable Logic Controller curriculum allowing for immediate employment upon graduation.

Transfer opportunities to 4-year university engineering programs.

Program combines hands-on learning with a rigorous foundation in engineering technology theory.

CAREER OPPORTUNITIES

Electrical Engineering Technician
Electronics Technician
Engineering Test Technician
Field Service Technician
Industrial Controls Technician

southeastmn.edu

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Electrical Engineering Technology - AAS

Full-time Program Plan

Please note that this is a sample program schedule. Your schedule may vary depending upon your needs, goals, and course availability. Please meet with your advisor to plan your schedule each semester.

Course No.	Course Name	Credits
First Semester		
ELEC 1202	Introduction to DC Electricity	2
ELEC 1204	Introduction to AC Electricity	2
ELEC 1209	DC Theory & Circuits	2
ELEC 1212	Digital Electronics I	3
ENGL 1215	College Writing I	3
PSYC 1110*	Introduction to Psychology	3
		15
Second Semester		
ELEC 1251	Solid State Devices	4
ENGL 1410	Technical Writing	3
COMM 1218	College Speech**	3
MATH 1225	Pre-Calculus	3
PHYS 1215	College Physics I	4
		17
Third Semester (Fall)		
ELEC 2211	Digital Electronics II	4
ELEC 2260	Linear Integrated Circuits	4
ELEC 2505	Advanced DC/AC Circuit Analysis	3
MATH 2440	Calculus I (or MATH212 at WSU)	4
		15
Fourth Semester (Spring)		
Goal 6	Humanities and Fine Arts	3
ECON 1210	Survey of Economics	3
ELEC 2230	Microcontroller Applications	5
ELEC 2510	Advanced Electronic Circuit Analysis	3
MATH 2445	Calculus II (or MATH213 at WSU)	4
ELEC 2221	Programmable Controllers	3
		21
	Total Required Credits - 68	

** COMM 1218 transfers as GS1003 to MSOE.