MINNESOTA STATE COLLEGE SOUTHEAST
A TECHNICAL & COMMUNITY COLLEGE

Mechatronics Technology

Winona Campus

OVERVIEW

Mechanical systems, electrical devices, and industrial automation combine for a cutting edge career.

If you like working with your mind and your hands, the challenging field of mechatronics technology may be the career choice for you! Mechatronics technology is the cutting edge discipline of building, troubleshooting, and maintaining the industry of tomorrow.

Mechatronics technicians work with industrial electricians, engineers, and technical support staff to ensure that production processes and equipment can be expanded and sustained in a wide range of industries.

At MSC Southeast in Winona, Mechatronics Technology students will learn skills spanning electronics, mechanics, hydraulics, and motors. You will understand how to set up and maintain advanced programmable logic controllers, drives, human-machine interfaces, and actuators. Graduates with this credential work in settings such as manufacturing, automation, control systems, and agriculture, such as:

- installing industrial robots at leading manufacturing firms
- deploying automated milking parlors on dairy farms
- troubleshooting high-tech industrial mechanical operations

This program is taught by industry and academic professionals who can relate modern industrial processes with cutting-edge advances in the world of mechatronics.

Whether studying electrical, mechanical, or instrumentation systems, the faculty will be able to draw a line from each lecture to what is taking place in today's most advanced industries.

MAJORS WITHIN

Mechatronics Technology, AAS	60 credits

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

PROGRAM OUTCOMES

1. Understanding AC/DC electrical circuits
2. Proficiency with pneumatic & hydraulic systems
3. Control and troubleshoot electrical motors
4. Installation and configuration of Variable Frequency Drives (VFD) and Human
5. Machine Interfaces (HMI)
6. Successful troubleshooting of electro-mechanical systems
7. Demonstration of multi-system integration via a program capstone project

PROGRAM HIGHLIGHTS

Taught by industry and academic professionals who can connect modern industrial processes with cutting-edge advances in the world of mechatronic

Lecture and lab coursework directly relate to what is taking place in today's most advanced industries

Capstone project will demonstrate your ability to integrate what you have learned in the program

CAREER OPPORTUNITIES

Automation Technicians
Industrial Engineering Technicians
Industrial Machinery Mechanics
Commercial & Industrial Maintenance Technicians

JOB PLACEMENT

TBD

www.southeastmn.edu

Mechatronics Technology - Associates of Applied Science

Sample 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.

Mechatronics Technology - AAS

Course No.	Course Name	Credits
First Semester		
ELEC 1202	Introduction to DC	2
ELEC 1204	Introduction to AC	2
ELEC 1209	DC Theory & Circuits	2
ELEC 1212	Digital Electronics I	3
MECH 1610	Basic Industrial Controls	3
GEN ED	Math Requirement	3
Semester total		**15**
Second Semester		
MACH1661	Introduction to CAD/CAM	2
MECH 1620	Programmable Controllers	3
MECH 1700	Mechanical Power Transmission	2
MECH 1710	Introduction to Hydraulic & Pneumatics	2
WELD 1455	Trades Enhancement Welding	3
GEN ED	English/Communications Requirement	3
Semester total		**15**
Third Semester		
MECH 1720	Machining for Maintenance	3
MECH 1630	Advanced PLC Programming	3
MECH 1631	Motors & Drives	3
MECH 1640	Integrated Industrial Systems	3
GEN ED	Arts and Sciences Elective	3
Semester total		**15**
Fourth Semester		
MECH 1632	Process Control Systems	3
MECH 1730	Robotics	3
MECH 1800	Mechatronics Capstone	3
GEN ED	Humanities Requirement	3
GEN ED	Social Science Requirement	3
Semester total		**15**
Total Required Credits		**60**