

# Certificate in Robotics

## Program Overview

Upon completion of this certificate, students will gain an understanding of the role of service technicians and develop skills to install, maintain, and repair industrial control and electronic equipment used in offices, factories, homes, hospitals, aircraft, and other industries.

## To Learn More About This Program

Contact Larry Holz at 269-687-5651 or [lholtz@swmich.edu](mailto:lholtz@swmich.edu).

## Certificate Requirements

To earn this certificate, students must have an overall GPA of 2.0 or higher, fulfill the course requirements of the program listed below, and complete a minimum of 21 credit hours. Additionally, MATH 128 and prerequisite courses must be completed with a minimum grade of C.

## Course Offerings

Courses within this program may also be offered on-site at our Dowagiac or Niles campus.

## Certificate Courses

Course ID	Course	Credits
ELEC 118	Fundamentals of Electricity 1	4 credits
ELEC 119	Fundamentals of Electricity 2	4 credits
ELEC 131	Digital Electronics	3 credits
ELEC 140	Motors and Motor Control Circuits	3 credits
ELEC 218	Process Control Instrumentation 1	3 credits
ELEC 233	Programmable Logic Controllers	2 credits
INTE 159	Hydraulics and Pneumatics	3 credits
INTE 227	Industrial Robotics	2 credits
MATH 128	Contemporary Mathematics	4 credits
WELD 159	Basic Welding	2 credits

**Total Program Credits: 30**

## Additional Notes About the Certificate in Robotics Program

- A prerequisite course may be needed prior to enrollment in some courses within this program. Specific prerequisite requirements are listed in the Course Description section in the Course Catalog. A summary of the prerequisites is listed below in the Example Course Sequence.
- Courses taken out of sequence may delay a student's ability to complete the program in a timely manner. Please consult your advisor regularly.
- Each student should submit a graduation application at least one full semester before they plan to graduate.
- This program is subject to change. Students should consult with their advisor for program updates.

## Example Course Sequence

The following is a sample of a semester-by-semester approach to completing this program.

### FIRST SEMESTER

Courses	Credits	Prerequisites (Minimum Grade of C Required)
ELEC 118 Fundamentals of Electricity 1	4 credits	None; concurrent enrollment in ELEC 119 preferred
ELEC 119 Fundamentals of Electricity 2	4 credits	ELEC 118 (concurrent enrollment allowed)
ELEC 140 Motors and Motor Control Circuits	3 credits	None
MATH 128 Contemporary Mathematics	4 credits	AUTO 113, CONS 113, or WELD 113, Math test score (Level 3 or higher), or concurrent enrollment in MATH 128C

### SECOND SEMESTER

Courses	Credits	Prerequisites (Minimum Grade of C Required)
ELEC 131 Digital Electronics	3 credits	ELEC 119
ELEC 218 Process Control Instrumentation 1	3 credits	ELEC 119
ELEC 233 Programmable Logic Controllers	2 credits	ELEC 119
INTE 159 Hydraulics and Pneumatics	3 credits	None
INTE 227 Industrial Robotics	2 credits	None
WELD 159 Basic Welding	2 credits	None