

MECHATRONICS: INDUSTRIAL AUTOMATION - CERTIFICATE

Overview

See Department website and program contacts here (<https://www.mhcc.edu/education-options/degrees-certificates/mechatronics/industrial-automation/index/>)

The **Mechatronics: Industrial Automation certificate** is designed for students and working professionals seeking skills in industrial automation, robotics, and advanced manufacturing systems. The curriculum builds on foundational industrial maintenance and electrical knowledge to prepare students for work in automated production and manufacturing environments.

Coursework includes topics such as **programmable logic controllers (PLCs), FANUC robotics, automation systems, troubleshooting, and industrial controls**. Students develop practical technical skills used to maintain, troubleshoot, and program automated manufacturing equipment.

The Industrial Automation program is workforce-focused and supports career advancement in industrial maintenance, manufacturing, automation, and related technical industries. Students entering the program should have prior knowledge of AC/DC electronics, electric motors, and sensors.

Students are encouraged to work with an advisor (<https://www.mhcc.edu/student-resources/academic-advising/>) to ensure appropriate course selection and program planning based on their educational background and career goals.

Refer to the tabs above for additional information about:

- **Education Plan** – provides a sample term-by-term sequence of courses
- **Career Info** – includes information on potential occupations, employment trends, and earnings

Program Learning Objectives

At the completion of this program, students should be able to:

- Demonstrate basic knowledge in automation control systems
- Operate and program basic industrial robots and programmable logic controllers
- Interact with automated systems following standard safety procedures

Education Plan

This sample Education Plan illustrates one possible course sequence. Students should consult an advisor (<https://www.mhcc.edu/student-resources/academic-advising/>) to create a personalized plan.

All MEC courses must be completed with a “C” grade or higher.

First Quarter		Credits
Fall		
MEC232	Intermediate Programmable Logic Controllers	5
Credits		5

Second Quarter		Credits
Winter		
MEC251	Robotics I	3
Credits		3
Third Quarter		Credits
Spring		
MEC231	Introduction to Programmable Logic Controllers	4
MEC252	Robotics II - Vision Systems	3
Credits		7
Total Credits		15

Awarding Requirements

The following requirement(s) must be fulfilled to be awarded the Mechatronics: Industrial Automation certificate:

- All core program courses (MEC) must be completed with a grade of “C” or higher.
- All core program courses (MEC) must be completed within five (5) years of starting the program.

Career Information

Explore potential careers related to this program, including typical job roles, employment trends, and projected growth. This information can help you better understand how your education may align with future career opportunities.