

# INDUSTRIAL ROBOTICS

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## Overview

**Degrees Offered:** Program Certificate

**Limited Enrollment:** Yes

**Program Begins:** Fall

**Delivery Method:** On Campus

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## Description

The Industrial Robotics Program Certificate prepares students for the world of industrial automation by teaching them to design, build, maintain, and troubleshoot complex automated systems. Students will gain experience with various components like machine communication systems, sensors, and robotic arms. They'll also learn how machines use vision systems to identify objects and how to integrate all these elements into a single, functional automated system, with a focus on troubleshooting and quality control.

Students must complete Mechatronics I and Mechatronics II before enrolling in Industrial Robotics.

## Preparation

Those considering an automation career should have a high school background in applied physics and algebra. Knowledge of mechanical, electrical, and/or instrumentation systems is beneficial.

Prospective students should be prepared for the physical demands of entry-level technician positions after completing this program. Typical industry requirements include passing a physical exam, lifting 50+ pounds, climbing ladders, and working in confined spaces or heights. Job applicants also may be required to pass a drug screening and eye exam, including the ability to distinguish between colors accurately.

## Requirements

Students who complete the curriculum requirements receive a Program Certificate in Industrial Robotics. Additional coursework may lead to an Associate in Applied Science degree.

## Program Pathways

Credits from the Industrial Robotics Certificate may stack into the following Associate in Applied Science degree:

- Industrial Automation and Robotics

The Associate in Applied Science degree may stack into the following Bachelor of Applied Science degrees:

- Energy Management
- Mechatronics Engineering Technology
- Operations Management

## Career Opportunities

Mechatronics and Industrial Robotic knowledge and skills lead to high paying careers in industry automation and other technical fields. The need for trained automation technicians continues to increase as manufacturing moves toward industry 4.0 standards and energy toward more automation.

## Additional Information



*This program receives funding from the U.S. Department of Labor; therefore, veterans and eligible spouses receive priority of service over non-covered persons. (20 CFR 1010)*

## Degree Plans

- Industrial Robotics Program Certificate

## Program Learning Outcomes

Upon graduation, Industrial Robotics students will be able to:

- Demonstrate skillful and safe integration practices when designing, building, maintaining, and troubleshooting automation systems composed of robotic arms, sensors, and machine vision technologies.
- Explain operating and integration principles governing the designing, building, maintaining, and troubleshooting of automation systems composed of robotic arms, sensors, and machine vision technologies.
- Troubleshoot and correct faults in complex automation systems composed of robotic arms, sensors, and machine vision technologies.
- Employ professional oral and written communication skills to ensure safe and optimal operation of facility and equipment.
- Follow industry standards in the application of mathematics and print reading in a systematic, safe and comprehensive manner, to assist in the troubleshooting, quality control, and prevention of operational issues with a variety of equipment and systems.