

MECHATRONICS I

Overview

Degrees Offered: Program Certificate

Limited Enrollment: Yes (On Campus)

Program Begins: Fall

Delivery Method: Online, On Campus

Phone: 701-224-5651 • 800-852-5685

Email: bsc.aeat@bismarckstate.edu

Description

The Mechatronics I program certificate prepares students to develop skills in both electrical and mechanical systems. Students will learn to analyze and design electrical circuits with DC and AC currents, gaining hands-on experience in a lab setting. They'll also be introduced to mechanical drive systems and the fundamentals of hydraulics, preparing them to troubleshoot and maintain equipment that uses both electrical and mechanical components.

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.

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 Mechatronics I.

Program Pathways

Credits from the Mechatronics I Certificate may stack into the following Associate in Applied Science degrees:

- Industrial Automation and Robotics
- Energy Services and Renewable Technician

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

- 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

- Mechatronics I Program Certificate

Program Learning Outcomes

Upon graduation, Mechatronics I students will be able to:

- Demonstrate skillful and safe work practices when working with electrical, hydraulic, and mechanical systems.
- Explain operating principles governing electrical, hydraulic, and mechanical systems.
- Troubleshoot and correct faults in electrical, hydraulic, and mechanical systems.
- 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 and prevention of operational issues with a variety of equipment and systems.