INDUSTRIAL AUTOMATION & ROBOTICS

Overview

Degrees Offered: AAS
Limited Enrollment: Yes
Program Begins: Fall
Delivery Method: On Campus
Phone: 701-224-5651 • 800-852-5685
Email: bsc.aeat@bismarckstate.edu

Description

Automation is a key facet in many industries including manufacturing, food and beverage, energy, logistics, and more. The Industrial Automation & Robotics program prepares students to install, maintain, repair, operate, and troubleshoot physical machines and control systems used to automate tasks within an industrial process. Students will complete a solid foundation of electronic, electrical, mechanical, control systems, and robotic systems projects, and then learn to integrate these systems to increase the productivity and efficiencies in industrial facilities.

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 an Associate in Applied Science degree.

VETERANS PRIORITY

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)

Career Opportunities

Working in industrial automation provides a high-paying career and exciting opportunities for employment throughout the world. The need for trained automation technicians continues to increase as manufacturing moves toward industry 4.0 standards.

Additional Information

Credits from this program may stack into BSC's Bachelor of Applied Science (BAS) degree in Mechatronics Engineering Technology or Operations Management.

The Mechatronics Engineering Technology BAS program is an interdisciplinary technical branch of engineering that focuses on electrical and mechanical systems combining electronics, programming, communications, systems, control, and product engineering. This degree prepares individuals to work with smart devices that incorporate mechanical, electrical, computer, and software components, such as robots, automated guided systems, and computer-integrated manufacturing equipment.

The BAS in Operations Management is offered entirely online. This bachelor's degree will upskill individuals with supervisory proficiencies essential in managing industrial manufacturing, production, automation, food and beverage, and logistics and distribution facilities.

Degree Plans

- Industrial Automation & Robotics Associate in Applied Science

Program Learning Outcomes

Upon graduation, Industrial Automation and Robotics students will be able to:

- Demonstrate skillful and safe work practices when installing, maintaining, repairing, operating and troubleshooting robots and machines used to automate tasks within an industrial process.
- Demonstrate skillful and safe work practices when installing, maintaining, repairing, operating and troubleshooting control systems used to automate tasks within an industrial process.
- Troubleshoot and correct faults while explaining operating principles governing electrical, hydraulic, mechanical, control and robotic system processes.
- Integrate robotics and control systems to increase productivity and efficiency in automation process used in an industrial facility.
- 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.