POWER PROCESS TECHNOLOGY

Overview

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

Description

The Power Process Technology program prepares students and incumbent workers for careers in the operation of modern industrial facilities, including power generation plants, refineries, biofuel plants, petrochemical facilities, coal gasification plants, and natural gas processing facilities. Students gain comprehensive knowledge of equipment and systems operations, mechanical and chemical technology, and the critical safety culture integral to the industry. Coursework emphasizes technical and safety aspects of plant operations, operator responsibilities, and the principles of generating steam and electricity.

Preparation

Students should be prepared for the physical demands of entry-level technician positions after completing the program. Typical industry requirements often include passing a physical exam, the ability to lift over 50 pounds, and the ability to climb ladders and work in confined spaces or at heights. Job applicants may also be required to pass a drug screening and an eye exam, including the ability to distinguish between colors accurately, which is a key aspect in some maintenance tasks.

Requirements

Students who complete the curriculum requirements receive an Associate in Applied Science in Power Process Technology.

Program Pathways

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

- Energy Management
- Operations Management

Career Opportunities

Graduates are well-prepared to work in a variety of energy and manufacturing industries, including electrical generation, petrochemical processing, refineries, ethanol plants, gasification, natural gas processing, and water treatment facilities. Their foundational knowledge also allows them to pursue careers in wind farms, co-generation power plants, industrial process operations, manufacturing, pipeline transportation, petroleum and chemical products, mining, and utilities. Employers seek professionals who are detail-oriented posses strong computer skills, and can identify and solve problems. These careers offer excellent pay, strong employability, and sustained job demand nationwide, making them both versatile and rewarding.

Additional Information

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)

Degree Plans

Power Process Technology Associate in Applied Science

Program Learning Outcomes

Upon graduation, Power Process Technology students will be able to:

- Explain an operator's responsibilities and demonstrate safe, professional and ethical characteristics necessary in the industry.
- Describe the design and operation of, as well as diagnose and troubleshoot various equipment and systems used in process/power facilities including instrumentation and auxiliary systems.
- Employ mathematics, chemistry and thermodynamics in a systematic, safe and comprehensive manner to meet standards and achieve quality and efficiency.
- Utilize industry standards when reading and interpreting piping and instrumentation drawings.
- Demonstrate excellent communication skills to ensure safe and optimal operation in a diverse environment.
- Demonstrate the skills and knowledge necessary in the operation of complex equipment and systems, including boilers, environmental equipment, electrical generators, turbines, electrical protection devices, distillation, refrigeration, biofuels production, and natural gas processing.