POWER PROCESS ADVANCED OPERATOR

Overview

Degrees Offered: Program Certificate
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
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Description

This certificate program builds upon the knowledge and skills obtained in the Operator I and Power Process Operator II certificate programs. This is accomplished by focusing on the complex systems and processes that drive modern power, process and industrial facilities. Students gain in-depth knowledge of turbines and combined cycle operations, power generation and protection systems, and the intricacies of refinery, ethanol, and distillation operations. Additionally, the program explores emerging trends in gas processing and carbon capture, culminating in a practical applications course that synthesizes learning into real-world solutions. Upon completion, graduates are equipped to lead operations teams, optimize facility performance, and drive strategic decision-making in complex industrial environments.

Preparation

Students must successfully complete Operator I and Power Process Operator II before enrolling in Power Process Advanced Operator.

Prospective 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 a Program Certificate in Power Process Advanced Operator. Additional coursework may lead to an Associate in Applied Science degree.

Program Pathways

Credits from the Power Process Advanced Operator Certificate may stack into the following Associate in Applied Science degree:

- Power Process Technology

The Associate in Applied Science degree 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 Advanced Operator Program Certificate

Program Learning Outcomes

Upon graduation, Power Process Advanced Operator students will be able to:

- Demonstrate knowledge of power generation systems, turbines, and combined cycle operations by applying principles of equipment design, functionality, and protection to maintain efficiency and safety in industrial environments.
- Analyze and operate refinery, ethanol, distillation, and gas processing systems, including carbon capture technologies, to optimize performance while adhering to environmental and safety standards.
- Apply practical skills in troubleshooting and maintaining complex industrial processes and equipment through hands-on applications and problem-solving strategies.