

Environmental Resources – Power Generation Technology

General Description

This program will prepare students for entry level positions in the steam and electrical power generation and distribution industry. Students will be trained to control, monitor and maintain boilers, turbines, generators, and auxiliary equipment in power-generating plants. Courses will include an introduction to how operators manage and distribute power demands among generators and other steam hosts as well as monitor instruments to maintain voltage and regulate electricity flows from the plant. The theory and operation of all plant support and ancillary equipment will be included. Computers will be used to keep records and prepare reports of plant operations, functions, and maintenance. A connection to bio-fuel sources and related issues will be emphasized.

Program Learning Outcomes

Upon successful completion of this program, the student should be able to:

- Control, monitor and maintain boilers, turbines, generators, and auxiliary equipment in power-generating plants.
- Monitor instruments to regulate electricity flows from a power-generating plant.
- Demonstrate proper operation of plant support functions.

Career Options

Power plant operations

Degree/Certificate Options

Associate of Science Degree

Environmental Resources – Power Generation Technology

Certificate of Achievement

Power Generation Technology

Certificates

Basic Power Generation Technology

Certificate

Requirements for the Certificate:

Complete the following:

ERPG 50	Power Plant Fundamentals	2 units
ERPG 51	Intro to Operations and Maintenance Techniques	1 unit
ERPG 52	Operations and Maintenance Safety	1 unit
ERPG 49a	Work Experience	2 units

Total Certificate Units: 6

Certificate of Achievement

Requirements for the Certificate:

Complete the following:

ERPG 50	Power Plant Fundamentals	2 units
ERPG 51	Intro to Operations and Maintenance Techniques	1 unit
ERPG 52	Operations and Maintenance Safety	1 unit
ERPG 49a	Work Experience	2 units

ERPG 53	Boilers & HRSG	3 units
ERPG 54	Steam Turbines & Generators	1 unit
ERPG 55	Gas Turbine Engines	1 unit
ERPG 56	Plant Water Treatment	2 units
ERPG 49b	Work Experience	4 units
MATH 53	Intermediate Algebra	3 units
BA 58	Business English	3 units
ERPG 61	Technical Drawing Interpretation	3 units
ERPG 62	Electrical Generation and Transmission	2 units
ERPG 63	Combustion and Emission Control	2 units
ERPG 64	Instrumentation and Control	3 units
ERPG 49c	Work Experience	2 units
ERPG 49d	Work Experience	4 units
Total Certificate Units:	39	

Associate of Science Degree

Requirements for the Major:

Complete the following:

ERPG 50	Power Plant Fundamentals	2 units
ERPG 51	Intro to Operations and Maintenance Techniques	1 unit
ERPG 52	Operations and Maintenance Safety	1 unit
ERPG 49a	Work Experience	2 units
ERPG 53	Boilers & HRSG	3 units
ERPG 54	Steam Turbines & Generators	1 unit
ERPG 55	Gas Turbine Engines	1 unit
ERPG 56	Plant Water Treatment	2 units
ERPG 49b	Work Experience	4 units
MATH 53	Intermediate Algebra	3 units
BA 58	Business English	3 units
ERPG 61	Technical Drawing Interpretation	3 units
ERPG 62	Electrical Generation and Transmission	2 units
ERPG 63	Combustion and Emission Control	2 units
ERPG 64	Instrumentation and Control	3 units
ERPG 49c	Work Experience	2 units
ERPG 49d	Work Experience	4 units

Total Major Units: 39

All courses must be completed with a grade of C or better.

In addition to the major requirements, students need to complete general education requirements and electives to reach the minimum of 60 degree-applicable units required for the associated degree. Consult with an advisor or a counselor to plan the courses necessary to achieve your academic goal.