ELECTRICAL TRANSMISSION SYSTEMS TECHNOLOGY

Overview

Degrees Offered: AAS, Program Certificate
Program Begins: Fall, Spring, Summer
Delivery Method: Online
Phone: 701-224-5651 • 800-852-5685
Email: bsc.energy@bismarckstate.edu

Description

The Electrical Transmission Systems Technology (ETST) program, offered from BSC's National Energy Center of Excellence, is designed to teach students about the electrical power system in North America. Courses within the program cover basic electricity, generation, distribution, and transmission with a strong emphasis on system operations. Classes begin every three to five weeks throughout the year.

BSC's ETST program is approved to offer North American Electric Reliability Corporation (NERC) continuing education hours (CEH). Students may earn college credits and receive NERC CEHs at the same time.

Preparation

Prospective students should be aware that most workers in this occupation must become NERC certified, be willing to work a rotating shift, pay close attention, and have confinement to duty during the shift period. Those employed in this industry must be able to handle stress, possess excellent communication skills, have above average computer skills, and be able to handle multiple tasks. When applying for jobs, applicants may be required to pass a drug screen and eye exam, including the ability to distinguish between colors accurately.

Computer Requirements

All BSC courses use a Learning Management System (LMS) called Blackboard. Chromebooks, Chrome OS devices, iPads, and mobile devices (iOS, Android phones, tablets) do not allow students to satisfactorily access and complete course content.

Please refer to the Computer Specifications for BSC students.

Program Requirements

Students who complete the curriculum requirements receive a Program Certificate or an Associate in Applied Science degree.

Career Opportunities

Industry forecasts a strong job market for job applicants due to an aging workforce, industry changes, and attrition. A graduate will find entry-level employment in areas of system operator, generation/transmission/power dispatcher, load forecasting, energy balancing authority, energy trader, power marketer, interchange operator, and NERC reliability coordinator.

Additional Information

Bismarck State College is recognized by the North American Electric Reliability Corporation as a continuing education provider that adheres to NERC Continuing Education Program criteria.

Credits from this program may be applied to BSC's Bachelor of Applied Science degree (BAS) in Energy Management, offered entirely online. The BAS is designed for individuals interested in supervisory and management positions in the energy industry. The BAS builds on the foundation laid in an AAS degree and includes general education classes, core management courses, and energy specific management courses.

BSC's National Energy Center of Excellence was designated as the National Power Plant Operations Technology and Education Center by U.S. Energy Secretary Samuel W. Bodman in 2007. This official designation recognizes BSC as the premier national center of education and training for operators and technicians in the energy industry.

Degree Plans

- Electrical Transmission Systems Technology Associate in Applied Science
- Electrical Transmission Systems Technology Program Certificate

Program Learning Outcomes

Upon graduation, Electric Transmission System Technology students will be able to:

- Demonstrate the procedural relationships of the generation, transmission and distribution of DC and AC electricity, the components used and power flow fundamentals.
- Interpret industry's reliability policies and procedures, safety and emergency issues and the impacts operators' actions have on the bulk electric system.
- Describe the role of Systems Operator pertaining to operations, switching, electrical diagram interpretation, communication systems and control strategies.