

# INSTRUMENTATION AND CONTROL TECHNOLOGY

---

LIMITED ENROLLMENT ON CAMPUS AND ONLINE

Delivery Method: On Campus, Online

Program Begins: Fall Only

## Program Description

The Instrumentation & Control Technology program at BSC combines theory and hands-on training with state-of-the-art instruments, working processes and computerized control systems. Students learn to install, test, calibrate and maintain instruments that measure, indicate and control variables such as pressure, flow, level, density, temperature, force, vibration and chemical composition. Students apply math and physics concepts and industry standards to realistic situations encountered on the job. Additional instruction includes updating system documentation and building or modifying specialized systems to solve problems in measurement and control. A limited number of students will be accepted to both the online and on campus programs in the Fall. Online degree seeking students are required to complete third and fourth semester program labs on-campus during the summer. Online students employed in the I&C industry or related field may have the option to complete the labs remotely. Students with a Journeyman Electrician License, or at least 28 college credits from an accredited electrician program, may qualify to move directly into the 2nd year of the program (I&C coursework).

## Preparation

Instrumentation & Control technicians need mechanical aptitude and the ability to solve problems intuitively. Some knowledge of electricity is helpful. Students benefit from background in high school algebra, physics and basic computer literacy, plus good reading and interpersonal skills.

Prospective students should be prepared to meet the physical requirements of work in this field. Fear of heights or color blindness may limit the graduate's employment opportunities. The duties of an instrument technician may involve working rotating shifts, but this is not typical. Most industrial facilities require entry-level applicants to pass a physical and drug test.

## 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 Associate in Applied Science degree.



*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)*

## Special Costs

A \$100 deposit, required upon acceptance into the program, is applied toward tuition. Fee is non-refundable if you decide not to attend BSC.

## Career Opportunities

The program is intense and directly applicable to the job market. Graduates are prepared for entry-level jobs in electrical generation facilities (power plants, etc.), refining (oil, ethanol, chemical processing, etc.), water treatment, food processing and manufacturing facilities. The program maintains contact with the instrumentation and control industry and assists with placement.

## Additional Information

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.

## Contact

701-224-5651 • 800-852-5685  
[bsc.energy@bismarckstate.edu](mailto:bsc.energy@bismarckstate.edu)

## Degree Plans

- Instrumentation and Control Technology Associate in Applied Science
- Instrumentation and Control Technology Program Certificate