ENGINEERING TECHNOLOGY

Students interested in Engineering transfer will find information here.

Program Description
The Engineering Technology program at BSC prepares students for immediate employment as engineering technicians in engineering and construction related industries. Computer aided design (CAD) and Global Information Systems (GIS) courses prepare students to use modern hardware and software to produce 2-D and 3-D drawings, maps and plans. Lecture and hands-on laboratory courses in materials testing give students the opportunity to learn industry standard field and laboratory testing procedures of construction related materials. Surveying courses and modern laboratories provide students broad exposure to traditional and modern surveying techniques for land measurement and construction layout. Related coursework introduces students to fundamentals and computation techniques of water and wastewater treatment, elementary structural analysis and construction management. Additional courses in technical writing, communications, economics, mathematics and government complete the curriculum.

Students will benefit from many recent updates to the facilities and equipment used in the Engineering Technology program. Lecture courses and CAD courses are located in new classroom and laboratory areas in the NECE building. Surveying labs use modern equipment including total stations, robotic/spatial total stations, GPS survey receivers and data collectors. Hands-on structural analysis and material testing labs are held in a new fully equipped laboratory facility in the Armory.

The Engineering Technology program is fully accredited by the Engineering Technology Accreditation Commission of ABET. For information about ABET accreditation and its benefits to students and institutions, visit www.abet.org.

Transfer Option
Those who may pursue a four-year engineering degree at a later date should consider course modifications in consultation with the Engineering Technology program coordinator.

2+2 Geomatics Degree
Beginning as early as Summer 2018, graduates of the Engineering Technology degree will be able to enroll for the BAS in Geomatics degree at BSC. This degree will further prepare students that want to pursue a career as a professional surveyor in North Dakota and other states. The degree plan presented in this catalog will allow graduates from the Engineering Technology program to enter the 2+2 BAS in Geomatics in junior standing. Additional information on the BAS in Geomatics will be posted online at www.bismarckstate.edu as soon as it becomes available.

GIS Certificate Option
By adding two more courses, students can complete a GIS Certificate of Completion. Refer to Geographic Information Systems Technician for complete details on the certificate of completion.

Preparation
Engineering technicians do the hands-on work related to engineering and/or construction. Incoming or potential students should have an interest in mathematics, computers, technology and construction.

Program Requirements
Students who complete the program requirements earn an Associate in Applied Science degree.

Enrollees should be able to perform laboratory exercises inside or outside during the school year and be able to lift light equipment and material loads.

As indicated in the curriculum, MATH 107 (Pre-Calculus) is taken the first semester of freshman year. Students not prepared to start MATH 107 may require additional courses and/or time to complete the degree.

Although not required, students are encouraged to have access to a home computer. Students can access reduced or no-cost academic versions of many of the software packages used in the curriculum. Instructors use learning management systems for many courses to provide students access to course materials and grades.

Career Opportunities
The Engineering Technology program prepares graduates for immediate employment as engineering technicians in a high demand employment sector. Graduates may work as drafters, estimators, surveying assistants, inspectors or material testers. Potential employers include federal, state, county or local governments, engineering firms, testing firms, utilities, mining and power companies, and construction firms.
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