

# COMPUTER SCIENCE

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## Overview

**Degrees Offered:** AS

**Program Begins:** Fall, Spring, Summer

**Delivery Method:** Online, On Campus

**Phone:** 701-224-2429

**Email:** bsc.cet@bismarckstate.edu

## Description

Computer Science is a science of problem solving. The BSC Computer Science program helps students master the basic skills needed to analyze a problem and design, implement, and verify a correct solution to meet the ever-changing demands of industry. Students receive extensive practice in computer program design using a variety of high-level programming languages such as Java, Python, and C++, as well as technology troubleshooting experience.

BSC offers a suggested curriculum to build a strong foundation in computer program design. Courses in calculus, discrete mathematics, and database design form part of the core study. Instruction emphasizes development of computational thinking, problem solving, and communication skills.

## Preparation

Successful computer science students possess these qualities: strong mathematics background, knowledge of computers, logical and critical thinking, good organizational, problem-solving and troubleshooting skills, and ability to work independently and/or as part of a team. They are inquisitive, able to adapt to change, detail oriented, and excellent communicators. Ongoing education and training in advancing technology is necessary through one's career.

Helpful high school preparation includes taking any available computer and mathematics courses. Dual credit options between BSC and a student's high school may be available.

## Requirements

Students completing the curriculum requirements receive an Associate in Science degree.

Graduates can typically enroll in a transfer school at the junior level to pursue computer science topics such as software engineering, computer graphics, game development, multimedia, bioinformatics, artificial intelligence, operating systems, or database management systems. The options are continually growing due to advances in technology.

Bismarck State College has many cooperative, articulation, or transfer agreements with postsecondary institutions both inside and outside of the North Dakota University System. In all cases, students seeking to transfer after completing a degree at BSC should consult the academic catalog of their destination college and work with their academic advisor to plan for this transition.

## Career Opportunities

Computer Science graduates can find work in all sectors of the economy, including business, energy, aerospace, government, health care, agriculture, research and teaching, to name a few. A computer scientist has nearly unlimited opportunity to find work in the technology industry. Jobs can be found in development, design, management, programming, and a host of other areas.

Possible career opportunities are computer systems analyst, management information processing, software engineer, computer scientist, game developer, database administrator, software developer, network and computer systems administrator, information security analyst, computer hardware engineer, computer/information research scientist, computer/information systems manager, operations research analyst, Web developer, technical writer.

## Degree Plans

- Computer Science Associate in Science

## Program Learning Outcomes

Upon graduation, Computer Science students will be able to:

- Understand and use appropriate terminology.
- Plan, design, and implement effective computer programs using high level computer programming languages.
- Develop problem solving strategies and decision making skills to meet requirements and accommodate given constraints for projects.