COMPUTER SCIENCE, B.S. (BEHREND)

Begin Campus: Any Penn State Campus

End Campus: Erie

Program Description

The goals of the Computer Science major at Behrend are to:

- Provide strong fundamentals in both theoretical and applied computer science
- Train our students to solve real-world problems
- Prepare graduates to be employed as a practicing computing professional in fields such as design, research, development, testing, maintenance, and manufacturing
- Assume positions of leadership and responsibility within an organization
- Progress through advanced degree or certificate programs in engineering, science, business, and other professionally related fields.

These goals are consistent with the objectives outlined for the ABET accreditation.

The program consists of a number of core courses in computer programming, algorithm, and computer systems. In addition, the program offers a selection of advanced topics from which students may choose elective courses with concentrations in Cyber Security, Artifical Intelligence and Data Science, and Web Services and Applications. The students will be required to analyze and solve a significant industry sponsored computer problem during the senior year.

What is Computer Science?

Computer science is the study of computational methods, including their principles and foundations, their efficient implementation, their analyses, and their practical application in wide-ranging areas. It includes the foundations of software development, computational problem solving, the principles of system software, and the fundamental principles and limits of computing. It is much more than just programming. It includes the mathematical foundations that support analyzing, evaluating, and proving the correctness of computational solutions. It includes specializations such as artificial intelligence, machine learning, cybersecurity, data mining, high-performance computing, computer networks, computer graphics, computer vision, quantum computing, and others. It is continually evolving with the development of new and faster forms of computation and with the identification of new problems that require computational solutions.

You Might Like This Program If...

- You enjoy math, logic, coding, and programming, and also want to take coursework in the natural sciences.
- You use all of your devices' capabilities, not just the obvious ones.
- You'd like to work in a specialized field in computer science such as artificial intelligence, machine learning, security, or web development.