

# COMPUTER SCIENCE



## ***Computer Science at Drexel***

Computer scientists design and build software systems, invent ways to use computing devices, ensure the security of networks, and explore the limits of what computers can do. As the amount of digitally stored information continues to grow at astounding rates, computer scientists are needed more than ever to help process, interpret, correlate, and represent such sources as audio and video recordings, DNA codes, physical measurements, and representations of human artifacts.

Drexel at BCC's Computer Science major teaches the underlying principles of computer science, how to apply them to a variety of problem domains, and how to keep current in an ever-changing technological world. Through our program you'll acquire a thorough understanding of algorithms, computer systems, and the software development process and develop strong analytical and communication skills. Working in teams, you'll learn to appreciate the dynamic and collaborative nature of problem solving.

## ***Drexel Co-op for Computer Science***

Drexel's prestigious co-operative education program, in which students alternate between periods of classroom study and periods of professional work experience, is a key part of the major. Computer Science majors participate in two six-month co-op periods of full-time employment.

### **A Few Drexel Co-op Position Titles**

- IT Security Analyst
- Scientific Visualization Programmer
- Software Engineer in Artificial Intelligence
- Software Quality Assurance Technician

## ***Employers***

Companies that have hired Drexel students include:

- Microsoft Corporation
- Lockheed Martin
- Google
- Siemens
- Unisys Corporation

## ***Potential Careers***

**Software Developer/Engineer.** Responsible for a large and growing part of the infrastructure of our civilization. Software developers/engineers create, maintain, and evolve the software that operates computers, cars, medical devices, flight control systems, GPS, and spacecraft.

**Game Developer.** Cooperate with artists and psychologists to create attractive, engaging games and human-computer interfaces. Maximize computer performance through building virtual realities that provide players with realistic sound and video animation in real time.

**Network Systems Analyst.** Design, evaluate, and maintain wide-area and local-area networks, intranets, and the Internet. Using appropriate hardware and software components in a suitable network architecture, network systems analysts provide Web services with specified performance and security characteristics.

## **Computer Science Concentrations**

**Software Engineering (required).** The science and art of developing significant software systems on time and on budget with acceptable performance and correct operation. Culminates in the design and implementation of a major software project.

**Artificial Intelligence.** Examines methods and techniques for designing machinery that can reason and think like humans.

**Data Structures and Algorithms.** Emphasis is on general design principles as well as theoretical and empirical techniques for analyzing the accuracy and efficiency of algorithms.

**Human-Computer Interaction.** Studies the design of software systems as it has a large impact on the way they are used.

**Numerical and Scientific Computing.** Basic methods for accurately and efficiently using mathematical models for analysis or prediction on workstations or parallel computers.

**Operating Systems.** Courses focus on how the computer's hardware and software resources are managed by the operating system software.

**Programming Languages.** Shows how writing fast and efficient computer programs can be made as simple as possible.

## **For More Information**

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