

# COMPUTER ENGINEERING



## ***Computer Engineering at Drexel***

Computer engineers work in a host of areas. They design smaller, faster, and more reliable computers and digital systems. They embed microprocessors in larger systems (such as antilock brake systems). They work on theoretical issues in computing, use object-oriented programming languages, and design large-scale software systems and computer networks. Drexel's Computer Engineering program provides a broad focus on digital circuit design, computer hardware and organization, programming and computer software, algorithms, and networks.

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

A key part of the major is Drexel's prestigious co-operative education program, in which students alternate periods of classroom study with periods of professional work experience. Computer Engineering students can choose from the following:

- Three Co-op Option (Five Years): includes three six-month periods of full-time employment
- One Co-op Option (Four Years): includes one six-month period of full-time employment

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

- Applications Developer
- Systems Analyst
- Web Developer
- Help Desk Associate

## ***Employers***

Here are some of the companies that have hired Drexel students as co-op or full-time employees:

- Cingular Wireless
- Comcast Corporation
- Motorola
- Unisys

## ***Potential Careers***

**Computer Engineer.** Researches, designs, develops, tests, and oversees the manufacture and installation of computer hardware. Works exclusively with computers and computer-related equipment leading to rapid advances in technology.

**Electrical Engineer.** Designs, develops, tests, and supervises the manufacture of electrical equipment. Usually specializes in areas such as electrical equipment manufacturing or power systems engineering.

**Project Manager.** Develops requirements, budgets, and timetables for a firm's information technology projects. Coordinates projects from development through implementation, working with internal and external clients, vendors, consultants, and computer specialists. Increasingly involved in projects that upgrade an organization's information security.

## **Courses You'll Really Enjoy**

**Computer Structures.** Explores the organization of computers, covering number representations, microprocessor machine instructions, storing of numbers and memory, computer arithmetic, the arithmetic logic unit (ALU), input/output organization, and popular microprocessors.

**Design with Microcontrollers.** Offers hands-on experience in the design of controllers that incorporate microcontrollers as an embedded component in a larger system. The microcomputer topics to be studied include architecture, software, programming, and interfaces.

**Introduction to Computer Networks.** Learn the history of the Internet. Discover how data packets move through the application, Internet transport, and network layers of Internet Protocols.

**Security in Computing.** Introduces ideas from cryptography and fault tolerant computing. Cryptography studies how masks secure information from eavesdropping. Students will learn how fault tolerance helps to maintain functional computing systems in the face of hardware failures or system noise.

## **Learn More: University Catalog**

A list of required courses for the Computer Engineering major is available online at [www.drexel.edu/catalog](http://www.drexel.edu/catalog).

## **Accelerated Degree Options**

Accelerated degree programs, such as the BS/MD, BS/PhD in Engineering, BS/JD, and BS/MBA, enable academically qualified students to earn both a bachelor's and an advanced degree, graduating sooner than they would in traditional programs. Eligible students can be admitted to an accelerated degree program in one of two ways: apply as an incoming freshman through Undergraduate Admissions or apply to the Office of Graduate Studies after completing a minimum of 90 credits. To learn more about accelerated degree options, visit [www.drexel.edu/em/ug/accelerated](http://www.drexel.edu/em/ug/accelerated).

## **For More Information**

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