COMPUTER SCIENCE IS THE STUDY of the design and analysis of algorithms. Algorithms, and the computational thinking behind them, drive the systems that run our digital world. Students learn extensive programming and problem-solving skills, and an appreciation for the intelligent use of technology, and gain the knowledge, skills and creative analytical ability to succeed in the dynamic field of computer science. From smart phones to smart homes: Computer scientists play a role in developing the technologies of the future.

Bachelor of Science (BS) in Computer Science
Minor: Computer science

The Xavier Advantage:
► Get testing and design experience, academic credit and professional networking contacts through co-op work with such top employers as the Unum Group, RealPage, Seapine, Kroger and CollegeSource.
► Take advantage of hands-on summer research opportunities through the National Science Foundation’s Research Experiences for Undergraduates program and programs at national labs.
► Join the Computer Science Club, and participate in seminars, guest speaker events, field trips and social activities.
► Attend conferences such as the Grace Hopper Celebration of Women in Computing and the SIGCSE Technical Symposium on Computer Science Education.

Xavier computer science graduates go on to:
► Google
► Cisco Systems
► Thomson Reuters
► IBM
► Michigan State University
► University of North Carolina-Chapel Hill
► University of Wisconsin-Madison
► Indiana University

Learn more www.xavier.edu/cs
Ask us xuadmit@xavier.edu
Visit campus www.xavier.edu/visit

XAVIER UNIVERSITY: A JESUIT CATHOLIC UNIVERSITY IN CINCINNATI, OHIO
THE PROGRAM
The Department of Mathematics and Computer Science offers the Bachelor of Science (BS) in Computer Science, the BS in Actuarial Science and the BS in Mathematics. The department, which also offers minors in computer science, mathematics and statistics, is housed in Hinkle Hall, the campus facility that’s modeled after the Xavier family castle in Navarre, Spain.

In addition to traditional studies, computer science majors at Xavier:

- Take advantage of summer research opportunities through the National Science Foundation’s Research Experiences for Undergraduates program. Working in computer labs at major research universities or at national laboratories, students perform research in the latest areas ranging from data mining to robotics.
- Choose to enroll in cooperative education opportunities to receive academic credit for work experience, and develop valuable professional contacts while learning more about career options in computer science. Recent co-op employers include RealPages, Seapine and the Unum Group. Responsibilities have included software testing, and software and database design.
- Join the Xavier University Computer Science Club, open to all students interested in computers. Students share ideas and interests outside the classroom, and participate in the ACM Programming Contest, seminars, guest speaker events, and social activities and field trips.

Computer science underscores the Xavier mission by emphasizing critical thinking, logical reasoning and the precise expression of ideas. With introductory classes of typically 20 students and smaller upper-level classes, personalized attention and faculty expertise are readily available. Each student receives individual counseling from members of the department. The faculty believes that the best teaching can be done only with close faculty-student interaction for discussion, thinking and exploring.

RESOURCES
Computer science students have access to an ever-evolving set of lab facilities, many of which are housed in the dedicated computer science laboratory. These facilities, in addition to individual workstations and laptops, include a parallel computing cluster, robotics lab and an assortment of mobile devices. All Xavier students enjoy the full-coverage WiFi network and six computing labs distributed across the campus.

Through classroom and hands-on study, computer science students become competent practitioners in the field. Students will:

- Develop a general background in computer science and an appreciation of the intelligent use of technology.
- Learn extensive skills in programming languages.
- Enhance problem-solving abilities, particularly in computer-related areas.
- Gain the knowledge, skills and creative analytical ability to be prepared for a career in computer science or for graduate study in this field or in other areas.

OUTCOMES
According to the U.S. Bureau of Labor Statistics, jobs for computer scientists are expected to grow by 24 percent through 2018, which is much faster than the average for all occupations. Employment opportunities are growing as individuals and organizations continue to demand increasingly sophisticated technologies. Demand increases also will be driven by very rapid growth in computer systems design and related services industry, as well as the software publishing industry, which are projected to be among the fastest-growing industries in the U.S. economy.

Employment for computer network systems administrators is expected to increase by 30 percent in the next decade, and prospects for network systems and data communications analysts look even more favorable with an expected 53 percent job growth.

A sample of employers and positions held by Xavier graduates in computer science includes:
- Director of software development, Citrix Systems
- Senior security engineer, Fifth Third Bank
- Application developer, Reynolds & Reynolds
- IT manager, City of Sharonville
- Software architect and network administrator, Fox Sports
- Software engineer, Google
- Web developer, GenSuite
- Computer science teacher, girls preparatory school
- Software developer, Family Heritage Life Insurance Company
- Software engineer, Hyland Software
- Co-founder, Game Closure
- Chief technical officer, Popover Games
- Software engineer, Cisco Systems
- Senior technical consulting engineer, IBM
- Patent attorney, Goodwin Proctor LLP

Xavier computer science graduates who pursue advanced degrees are accepted into such prestigious institutions as:
- Indiana University
- University of Notre Dame
- University of Pittsburgh
- Michigan State University
- University of Michigan
- Rice University
- University of North Carolina-Chapel Hill
- University of Wisconsin-Madison

THE COLLEGE & THE CITY
The College of Arts and Sciences is the oldest and largest college at Xavier University. Its goal is to provide excellent liberal arts education in the Jesuit tradition that prepares students for careers, professional or graduate school, and life in a global society.

Centrally located in the heart of the Midwest and set along the Ohio River, Cincinnati is a thriving city, offering college students in the region a wide range of opportunities for internships and careers. Culture and entertainment ranges from the Cincinnati Art
Museum to the Cincinnati Reds. Affordable and accessible, Cincinnati is rated one of the "most wired" U.S cities (Forbes Magazine), most sociable city in the world (mashable.com), and one of the top 15 U.S. cities to live and work (Fortune Magazine).

CORE CURRICULUM

The foundation of Xavier’s success is its commitment to its Jesuit heritage. The Core Curriculum embodies Xavier’s mission and philosophy of education and serves as a valuable foundation for all undergraduate students. Within the Core, the four-course Ethics/Religion and Society (E/RS) Focus fosters students’ understanding of socially significant issues through study of the humanities, especially literature, philosophy and theology, as well as the social and natural sciences. Along with courses in their major, Xavier students also take Core courses in: cultural diversity, English composition, fine arts, foreign language, history, literature, mathematics, philosophy, science, social science and theology.

ACADEMIC REQUIREMENTS

Core Curriculum: Minimum 64 credit hours

Major in computer science: 36 credit hours, including Computer Science I, II, Machine Organization, Data Structures & Algorithms, Languages & Automata, Software Engineering, Programming Languages, Operating Systems, Networking, Senior Seminar & Project, and six hours of elective courses from those numbered CSCI 200 - 397. Also required: nine credit hours of sciences, and math including Calculus I, Foundations of Higher Math, and either General Statistics or Linear Algebra. Students must also fulfill the current senior comprehensive requirements.

FOR MORE INFORMATION

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