

COMPUTER SCIENCE

ACADEMIC PROGRAM INFORMATION



"Majoring in computer science at Centre has not only provided me with the skills necessary to be successful in a competitive field, but also the opportunity to explore topics that I'm passionate about."

OLIVIA ALFORD
Centre Class of 2017
Computer Science Major

IN CENTRE'S COMPUTER SCIENCE PROGRAM, PROFESSORS TEACH THEIR STUDENTS TO DESIGN AND IMPLEMENT EFFICIENT SOLUTIONS TO COMPLEX PROBLEMS. CENTRE ALSO EMPHASIZES COMMUNICATION AND LIFE-LONG LEARNING. BECAUSE THESE SKILLS ARE COMBINED WITH A FOCUS ON THE FOUNDATION OF COMPUTER SCIENCE AS WELL AS ON LEADING-EDGE DEVELOPMENTS, A GRADUATE FROM THIS PROGRAM CAN LOOK FORWARD TO AN EXTREMELY BRIGHT PROFESSIONAL FUTURE.

THE CENTRE ADVANTAGE

What are the advantages of graduation from Centre rather than from a technically oriented institution? Centre provides a liberal arts education to each of its students, helping to make them well-rounded individuals who know how to keep learning in a very dynamic field. We are committed to providing students not only with a sound theoretical foundation in the discipline but also with a variety of settings in which to practice their skills. Studying computer science in an academically diverse and rich atmosphere encourages students to pursue their other interests and many of our majors have enhanced their studies with courses in the fine arts or social sciences. Most students travel abroad or participate in sports.

Our faculty and staff are first-rate, and the small classes ensure that students get the personal attention that produces superior results. Students work with faculty from the very beginning, and professors see the students in multiple courses, allowing real understanding of both their strengths and weaknesses. Centre, with its emphasis on teaching, is ranked among the

nation's best liberal arts institutions by *U.S. News & World Report*, *Forbes*, *Princeton Review*, and others.

A Centre education provides you with skills in analysis, in critical thinking, and in oral and written communication abilities that enable students to succeed in life after Centre College.

A VARIETY OF COURSES IN A SUPPORTIVE ENVIRONMENT

Required courses for the major are offered every year, and elective courses are offered on a regular, alternate years basis. Our offerings evolve periodically in response to recommendations from our alumni. Choices include artificial intelligence, parallel computing, software engineering, databases, networking, and computational science. Our students can do course-related work in a dedicated lab space. A second lab is used for long term experiments by students and faculty. Our program has a collaborative studio space to support all computer science students, including those who prefer to work on their own laptops. Computer Science majors are eligible for the Brown Fellowship; strong applicants are encouraged to apply. Many of our majors take advantage of other need and merit-based aid.

Internships give students valuable opportunities to practice what they learn. Some majors are hired as help desk personnel or programmers by Centre's IT department. Other students find summer internships where they can get real-world experience, or conduct research with professors across a wide range of disciplines. Some of our classes utilize real-life projects: students in one course implemented an online searchable database of casualty data for the Perryville Battlefield State Historical Site, and a first-year seminar devised a mobile app for Danville's Community Arts Center.

OPPORTUNITIES FOR RESEARCH

Centre faculty members regularly conduct research with students. Five students have worked on John C. Young honors projects in computer science, and an interdisciplinary one in mind-machine interfaces which took place this year. Almost every summer one or more students participate in research projects either at Centre or at other institutions. Our students have been awarded Fulbright scholarships, appointments to summer research positions in Oak Ridge, Tennessee; the National Institute of Standards and Technology; and the NSA; and have been selected for summer research projects at Notre Dame University, the University of Chicago, and other schools. On Centre's campus, students have worked with faculty members on genetic algorithms, mobile apps, drug discovery, energy efficient computing, educational video games, the analysis of the text of debates in the 2012 elections, and they have supported researchers in behavioral neuroscience.

MINORING IN COMPUTER SCIENCE AND DOUBLE MAJORS

The computer science program does offer a minor, which can be a valuable asset for just about any natural or social science major. Many students avail themselves of the opportunity to complete a second major, and in recent years computer science majors have graduated with double majors in art, math, philosophy, economics, psychology, and physics. Students appreciate the fact that they can study computer science and still pursue other interests.

CAREERS IN COMPUTER SCIENCE

Most of our graduates find positions in computer-related fields. Many list their job title as programmer/analyst, software developer, or systems engineer, while others have found positions in network administration. Employers include Google, Epic, Amazon, and MetLife, as well as other smaller companies. One of our graduates, with a second major in art, is engaged in the game industry in California. The skills you learn as a computer science major will be valuable in almost any career you select.

Every year a few students decide to continue their computer science studies in graduate school. In recent years alumni have attended the University of Illinois, Purdue University, Carnegie Mellon, the University of Tennessee, the University of Pennsylvania, and Vanderbilt. Several other alums have completed M.B.A. degrees after they entered the work force. Interdisciplinary studies are becoming more important at the graduate level and we now have several alums in computational biology and data science.

FACULTY

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VISIT CENTRE

The best way to judge Centre is to tour the campus, attend a class, talk to the professors and students, and spend the night in a residence hall. We invite you to visit and encourage you to contact the Admission Office if you have any questions.

FOR FURTHER INFORMATION ABOUT THE COMPUTER SCIENCE PROGRAM AT CENTRE, CONTACT:

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COMPUTER SCIENCE WEB PAGE

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