



B.S. IN COMPUTER SCIENCE

COMPUTER SCIENCE AT ST. BONAVENTURE

Now in its 31st year, Computer Science has become one of the most dynamic departments on campus. Thanks to a combination of external grants, generous donations from alumni, strong support from the St. Bonaventure University administration, a talented, dedicated faculty, and an exceptional group of undergraduates, we offer you a first-class computer science education supported by state-of-the-art equipment.

CAREER OPPORTUNITIES

The computer science major prepares students for entry-level software engineering, networking, and database and web application development positions as well as for advanced study at the graduate level.

Nearly every graduate has obtained a position immediately upon graduation as a computer professional in areas such as software engineering, database application development, web development, security management, network administration, and user support. Faculty help to place students and many graduates are hired by alumni working in industry.

They have begun careers with employers such as Booz Allen Hamilton, Cutco, Dresser-Rand, Goldman Sachs, HSBC, IBM, L-3 Communications, Lockheed Martin, Microsoft, Nationwide Insurance, Oracle, and Paychex.

Recent SBU graduates who have majored in computer science have enrolled in graduate programs at University at Buffalo, Carnegie Mellon University, Rensselaer Polytechnic Institute, Rochester Institute of Technology, University of Arizona, and University of Rochester.

COMPUTER FACILITIES

In 2008, the Department moved into the new William F. Walsh Science Center where the department maintains two laboratories for computer science students. The Software Development Laboratory supports the first three courses in the major sequence as well as two upper division courses. The Undergraduate Robotics Laboratory, funded in part by grants from the National Science Foundation and George I. Alden Trust, includes several Khepera® miniature robots and one life-size PeopleBot® robot. Students have 24-hour access to both labs.

The department is committed to both the Windows and Linux platforms. Java is used for the laboratory component of the first two courses, and students have opportunities to develop in languages such as C, C++, scripting languages, Visual Basic for Access, and the .Net Framework languages C# and VB.Net in upper division courses. Both Eclipse and Visual Studio are used for application development.

The department maintains an independent web server to support instruction as well as several other servers on a subnet of the university's network. The department's network provides students with opportunities to pursue research and independent study in an environment that is protected from the rest of the campus network.

INTERNSHIPS, WORK OPPORTUNITIES

Students may receive up to three credits for an internship during which they work in an industry setting under the supervision of a computer professional. Students who have completed an internship usually receive a job offer.

There are employment opportunities on campus for computer science majors and many students take



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advantage of these. On-campus opportunities include PC support specialists, computer lab assistants, and web page designers for various academic and administrative offices, web and network administrators for the computer science department, lab teaching assistants for computer science faculty, and faculty summer research assistants. Positions involving PC support, network support, and application development are available off campus with several local businesses.

DEDICATED FACULTY

Each computer science faculty member is first and foremost a dedicated teacher who enjoys the close contact with students afforded by class sizes of 15 to 20 students. All of the faculty are active in regional and national computer organizations and have published widely in the area of computer science education.

Together, the computer science faculty has published more than 30 articles and two textbooks, participated in seven National Science Foundation workshops, written four successful National Science Foundation grant applications, and received grants from IBM and Procter & Gamble.

Each of the faculty regularly supervises students in independent research projects. Current areas of undergraduate research and independent study include robotics, graphics for video games, application development for the Android platform, computer security, and the development of a testing framework.

PREPARATION FOR THE PROGRAM

You need not have taken computer programming in high school: The first course in the major curriculum

presupposes no programming experience. You should have completed four years of high school mathematics and at least two years of science. Students may receive advanced placement by taking the Advanced Placement Computer Science exam or by taking college-level computer science classes. You will be placed appropriately during orientation.

REQUIREMENTS: B.S. IN COMPUTER SCIENCE

A student majoring in computer science takes 10 courses in computer science and three mathematics courses in addition to foreign language and general university requirements.

Computer Science	Credits
CS 131. Computer Science I	4
CS 132. Computer Science II	4
CS 231. Computer Organization	4
CS 232. Algorithms and Data Structures	3
CS 331. Principles of Programming Languages	3
CS 332. Theory of Computation	3
CS 490. Software Engineering	3
Three computer science electives	9-12
Standardized exam for Comp. Sci. (taken senior year)	0
Mathematics	10
Foreign Language	3
Clare College Requirements (SBU Core Curriculum)	36
General Electives	35-38
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	120

FOR MORE INFORMATION about computer science at St. Bonaventure, please contact the department chair, Dr. Steven K. Andrianoff, at andrianoff@sbu.edu or 716-375-2053. Visit us on the web at <http://www.sbu.edu/cs> or <http://www.cs.sbu.edu>