



Bachelor of Science in Computer Science

College of Engineering and Computer Science

Why major in computer science?

The Bachelor of Science degree in Computer Science prepares graduates for rewarding careers in all areas of business, government, education and industry. Computer science professionals tackle complicated problems and create computer solutions to solve them. They also apply their knowledge of computers and computational methods to build new systems that might include a navigation system for a new space vehicle, a marketing research and analysis program for a large corporation, or a loan analysis system for a bank. Organizations, both large and small, need computer professionals to convert their needs into specific programs, procedures and systems that will accomplish the job.

Why choose Cal State Fullerton?

Teaching is our first priority. We focus on undergraduate education and master's degree programs. As a result, our faculty devote more time to teaching rather than fulfilling the demands of a heavy research schedule usually required by doctoral programs. In addition to the teaching skills of the computer science faculty, all of our classes, even at the introductory level, are small.

Distinguished faculty. Our faculty members are experienced professionals, who hold degrees from prestigious universities. Although teaching is their first priority, most of them have active research programs in basic or applied computer science or computer science education. Funding comes from government agencies such as the National Science Foundation and from corporate sources such as Lockheed Martin, as well as from smaller corporations, who make important contributions to the support of the department's work. The full-time faculty are supplemented by our adjunct faculty who bring our students important knowledge of current practices and trends in the computer field.

Preparation for graduate work. The Bachelor of Science degree in Computer Science is designed to be flexible enough to provide excellent preparation for graduate work, not only in computer science, but in other technical and professional fields. Many of our students, including those who begin full-time careers in industry, continue their education and obtain advanced degrees.

Choice of campuses. The upper-division courses required for the Bachelor of Science degree are offered on both our Fullerton and El Toro campuses.

Student participation in research. Many of our students participate in one or more research projects before graduation, even though we do not have a research requirement as part of the B.S. program. Most grant-supported research in the department includes funds to support undergraduate students. Several of our undergraduate students have co-authored research papers with faculty members.

Industrial partnerships. Partnerships with leading companies enable students and faculty members to collaborate on funded projects of mutual interest with the firms' computer scientists and software engineers. Students gain valuable practical experience and develop the skills to work effectively in an interdisciplinary team environment.

Accreditation. The Bachelor of Science degree in Computer Science is accredited by the Computer Science Accreditation Board (CSAB). The accreditation process includes both an internal review, as well as an external review conducted by an evaluation team with members drawn from academic institutions, government, industry and private practice.

What types of career opportunities are available?

Bachelor of Science in Computer Science. This degree helps prepare students for a variety of career objectives, including systems programming, scientific computing, commercial programming and information systems. Alumni can be found in all areas of business, government, education and industry – in large corporations and in small companies.

Minor in Computer Science. The minor in Computer Science offers students a competitive employment edge. In many fields, people with a good knowledge of computers and how to apply them are at a premium. Often, employers do not need a person whose specialty is computers – they need a specialist in their field who also has a good grasp of computation methods and techniques!

A minor in Computer Science requires the completion of at least 20 units of advisor-approved courses including 11 units of fundamental courses (Computer Science 121, 131, 253U, and 313) and nine units, which may be selected to complement your career plans.

What courses are required?

All computer science majors take 40 units of courses dealing with fundamental principles of the discipline and 30 units in the related fields of mathematics and science. In addition, 21 units are available for other courses that support career objectives. Finally, computer science majors satisfy the university's 51-unit general education requirement; 12 of these 51 units are already satisfied by the mathematics and science requirement, leaving 39 units for completion of the rest of the general education program.

Fundamentals Courses (40 units)

Lower-division fundamentals (13 units)

All computer science students complete Computer Sci 131, 231, 240, 241, and 253U.

Upper-division fundamentals (27 units)

All computer science students complete Computer Sci 301, 311, 315, 321, 331, 351, 375, 423, 440 and 461.

Requirements in Mathematics and Science (30 units)

Mathematics Requirement (18 units)

Mathematics 150 A and B, 270 A and B and 338

Science Requirement (12 units)

Physical Science (8 units)

Choose one of the following combinations:

Physics 225 and 225L and Physics 226 and 226L

OR

Chemistry 120A and Chemistry 125

OR

Geological Sci 101 and 101L and Geological Sci 201.

Biological Science (4 units)

Biology 101 and 101L

Career Support Courses (21 units)

Systems Programming—Students complete Computer Sci 223A, 361 and 431, and 12 units of elective courses with the approval of their advisor.

Scientific Computing—Students complete Computer Sci 223F and 435, Mathematics 250 A and B, 340 and 370, and 3 units of elective courses with the approval of their advisor.

Commercial Programming—Students complete Accounting 201A, Computer Sci 223C, 223H, 341, 431 and 6 units of electives with the approval of their advisor.

Information Systems—Students complete Computer Sci 223C or 223H, 431 and 433; two courses selected from Computer Sci 303, 341, 457, 465 and 477; and 6 units of electives with the approval of their advisor.

General Education Courses (39 units)

Computer science students must complete the university's 51-unit general education requirement. Twelve of these 51 units will be completed in the major's "Requirements in Mathematics and Science." For the remaining 39 units, please refer to the "General Education" section of the university catalog.

What financial aid is available?

For financial aid information please contact the Financial Aid Office at (714) 278-3125.

**What internships
are available?**

Computer Science majors may take advantage of the opportunities provided by the Center for Internships and Cooperative Education. Internships provide students with opportunities to gain work experience, network and develop industry contacts, earn academic credit, solidify academic and career goals, earn money while learning, and explore various career options within the major.

Students can work part-time while attending regular classes or full-time for a semester or summer; continuing classes the following semester. Both paid and unpaid positions are available. For more information, please call (714) 278-2171, or visit the Center for Internships and Cooperative Education on campus in Langsdorf Hall 209.

**What activities
are available?**

Students have an active computer club, the Association for Computing Machinery (ACM), which encourages socialization among the students. The ACM annually sponsors programming contests, visits to local industries, and meetings with guest speakers and other events. Besides serving a social function, the club helps students learn how to locate the kind of jobs they want when they graduate. To learn more, visit the ACM Web site at: www.ecs.fullerton.edu.

Who advises me?

All of the Computer Science faculty participate in advising. You may make an advising appointment by calling (714) 278-3700 or sending e-mail to csoffice@ecs.fullerton.edu. The Department requires that each student be advised at least once per year to ensure that degree requirements are being met.

**Where can I get more
information?**

Additional information is available on the College of Engineering and Computer Science Web site at: www.fullerton.edu/ecs/ or via email at: csinfo@ecs.fullerton.edu.

You are also welcome to visit us in person. Our office is located in Computer Science Building, room 522. Please call us if you need an appointment or contact us by mail:

California State University, Fullerton
Department of Computer Science
P.O. Box 6870
Fullerton, CA 92834-6870
(714) 278-3700
FAX: (714) 278-7168