

Computer Science

In the College of Sciences

OFFICE: Geology/Mathematics/Computer Science 413

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<http://www.cs.sdsu.edu>

The B.S. degree in Computer Science is accredited by the Computing Accreditation Commission of ABET, Inc.

Faculty

Emeritus: Anantha, Baase-Mayers, Donald, Marovac, Vinge

Chair: Beck

Professors: Beck, Carroll, Stewart, Swiniarski, Tarokh, Vuskovic

Associate Professors: Eckberg, Valafar, Whitney

Assistant Professors: Lewis, Roch, Xie

Lecturers: Bajic, Riggins

Adjunct: Root, Thomas

Offered by the Department

Master of Science degree in computer science.

Major in computer science with the B.S. degree in applied arts and sciences.

Minor in computer science.

Certificate in geographic information science.

The Major

Computer Science is the study of computers and their applications. It is concerned with methods for storing and retrieving information, with the design and use of languages for writing computer programs, with the hardware systems that interpret such languages, and with the theoretical principles that form the foundations of computing. Computer Science includes a wide variety of specialties and application areas such as artificial intelligence, robotics, graphics, systems programming, simulation, and computer networks.

The Bachelor of Science in Computer Science is designed to provide students with a fundamental understanding of modern computing methodology and programming practices along with a complementary knowledge of hardware. The first two years provide the basic preparation in programming, data structures and architecture. The final two years are devoted to more advanced fundamentals and specialized electives.

Computers are used to store and manage information, to analyze scientific data, and in a wide variety of other applications. Computing technology is found in an almost limitless number of settings, ranging from automobiles to household appliances to toys. Because of this, a wide range of jobs are open to people trained in Computer Science. Employment opportunities are expected to remain very strong.

Major Academic Plans (MAPs)

Visit <http://www.sdsu.edu/mymap> for the recommended courses needed to fulfill your major requirements. The MAPs Web site was created to help students navigate the course requirements for their majors and to identify which General Education course will also fulfill a major preparation course requirement.

Computer Science Major

With the B.S. Degree in Applied Arts and Sciences

(Major Code: 07011)

All candidates for a degree in applied arts and sciences must complete the graduation requirements listed in the section of this catalog on "Graduation Requirements."

A minor is not required for this major.

Preparation for the Major. Computer Science 107, 108, 237; Mathematics 150, 151, 245, 254; Statistics 250; and 12 units of science courses selected with approval of a computer science adviser. The science courses must include one of the following two-semester sequences with laboratory: Physics 195, 195L, 196, 196L; or Chemistry 200, 201; or Biology 201A, 201B. The remaining coursework to complete 12 units must be science courses or courses that enhance the student's ability to apply the scientific method. (38 units)

Graduation Writing Assessment Requirement. Passing the Writing Proficiency Assessment with a score of 10 or above or completing one of the approved upper division writing courses (W) with a grade of C (2.0) or better. See "Graduation Requirements" section for a complete listing of requirements.

Major. A minimum of 37 upper division units to include Computer Science 310, 320, 370, 440, 490, 530, 560, 570; at least one course selected from Mathematics 541, 579, Statistics 350A, 550, or 551A; and 12 units of computer science electives selected with the approval of a computer science major adviser. At least nine units of electives must be in computer science.

Master Plan. A master plan of the courses taken to fulfill the major must be approved by a major adviser and filed with the Office of Advising and Evaluations.

Computer Science Minor

The minor in computer science consists of a minimum of 18-24 units in computer science and mathematics to include Computer Science 107, 108; and at least 12 upper division units, or at least nine upper division units if the student completes a full calculus sequence, i.e., Mathematics 121 and 122, or 150 and 151. The courses selected are subject to the approval of the minor adviser.

Courses in the minor may not be counted toward the major, but may be used to satisfy preparation for the major and general education requirements, if applicable. A minimum of six upper division units must be completed in residence at San Diego State University.

Geographic Information Science Certificate*

The purpose of the program is to prepare students to acquire, manage, and visualize geospatial data in public and private organizations. Students must apply for admission to the program before the completion of 12 certificate units and must complete the required units with a 2.5 grade point average.

The certificate requires 27 units distributed between the departments of Computer Science and Geography as follows: 12-15 units selected from Computer Science 105, 107, 108, 220, 310, 320, 503, 514, 520, 535, 551, 575, and 12-15 units selected from Geography 104, 381, 484, 581-589. Courses with relevant content (e.g. Computer Science 596 or Geography 596) may be substituted for the computer science and geography courses with the approval of the certificate adviser. Courses in the certificate may be counted toward the major in computer science if applicable.

* Additional prerequisites required for this certificate.