

COMPUTER SCIENCE BS

More Information

E-advising Tools

Students are encouraged to use the interactive e-advising tools that have been designed to help them graduate within four years. These tools can be accessed through the Student Center.

The Bachelor of Science in Computer Science provides a hands-on curriculum that prepares students for a wide range of fulfilling careers in the software and technology industries. Graduates enjoy the strong reputation of hitting the ground running—being productive employees right from the start.

The degree prepares students for a wide range of fulfilling careers from software development to managing the computing systems of large companies. All the giant tech companies (and hundreds of smaller companies) employ California State University, Chico computer science alumni. The program is designed so students without any programming experience can succeed and start a career at a premier tech company.

The Computer Science program is accredited by the Computing Accreditation Commission of ABET, <http://www.abet.org> (<http://www.abet.org/>).

Grading Requirement

All courses taken to fulfill program course requirements must be taken for a letter grade except those courses specified by the department as credit/no credit grading only.

A grade of C or higher is required in all Computer Science (CSCI), Computer Information Systems (CINS), Electrical/Electronic (EECE), Business Information Systems (BSIS), or Management Information Systems (MINS) courses used for the major.

Each Computer Science (CSCI) and Computer Information Systems (CINS) course may be attempted no more than three times each. After a third attempt with a grade below C in any single required CSCI/CINS course, a student will not be able to complete the major.

Course Requirements for the Major: 87 units

Completion of the following courses, or their approved transfer equivalents, is required of all candidates for this degree. Courses in this program may complete more than one graduation requirement.

Enrollment in any mathematics course requires a grade of C- or higher in all prerequisite courses or their transfer equivalents.

Course	Title	Units
Lower Division		
CSCI 111	Programming and Algorithms I	4
CSCI 211	Programming and Algorithms II	4
CSCI/MATH 217	Discrete Mathematics	3
MATH 120	Analytic Geometry and Calculus	4
MATH 121	Analytic Geometry and Calculus	4
Select one of the following:		3
CSCI 221	Assembly Language Programming	

EECE 237	Embedded Systems Development	
Select two of the following:		8
CHEM 107	General Chemistry for Applied Sciences or CHEM 111 General Chemistry I	
CHEM 108	Organic Chemistry for Applied Sciences	
CHEM 112	General Chemistry II	
PHYS 204A	Physics for Students of Science and Engineering: Mechanics	
PHYS 204B	Physics for Students of Science and Engineering: Electricity and Magnetism	
Upper Division		
CINS 370	Introduction to Databases	3
CINS 448	Computer Security	3
CSCI 301W	Computer's Impact on Society (W)	3
CSCI 311	Algorithms and Data Structures	4
CSCI 411	Advanced Algorithms and Complexity	4
CSCI 430	Software Engineering	3
CSCI 440	Operating Systems	4
CSCI/EECE 446	Introduction to Computer Networks and Network Management	3
CSCI 490	Computer Science Capstone	3
CSCI 551	Numerical Methods and Parallel Programming	3
MATH 314	Probability and Statistics for Science and Technology	4
Select one from the following:		3
CINS 465	Web Programming Fundamentals	
CINS 467	Mobile Application Development	
Select one from the following:		3
CSCI 315	Programming Languages	
CSCI 515	Compiler Design	
Select one from the following:		3
CSCI 580	Artificial Intelligence	
CSCI 581	Machine Learning	
Select 11 units from the following: ¹		11
EECE 555	Advanced Computer Networks	
Any upper-division Computer Science (CSCI) or Computer Information Systems (CINS) courses		
Any upper-division Math courses that meet a requirement for the Minor in Mathematics		
Total Units		87

¹ A maximum of 3 units may be taken for credit/no credit grading.

Additional Computer Science Graduation Requirement

Graduating seniors must complete an exit exam as a requirement for graduation. Passing the exam is not required for the degree; the scores will be used for program assessment. Consult the department office for examination details.

Honors in the Major

Honors in the Major is a program of independent work in your major. It requires 6 units of honors course work completed over two semesters.

The Honors in the Major program allows you to work closely with a faculty mentor in your area of interest on an original performance or research project. This year-long collaboration allows you to work in your field at a professional level and culminates in a public presentation of your work. Students sometimes take their projects beyond the University for submission in professional journals, presentation at conferences, or academic competition. Such experience is valuable for graduate school and professional life. Your honors work will be recognized at your graduation, on your permanent transcripts, and on your diploma. It is often accompanied by letters of commendation from your mentor in the department or the department chair.

Some common features of Honors in the Major program are:

- You must take 6 units of Honors in the Major course work. All 6 units are honors classes (marked by a suffix of H), and at least 3 of these units are independent study (399H, 499H, 599H) as specified by your department. You must complete each class with a minimum grade of B.
- You must have completed 9 units of upper-division course work or 21 overall units in your major before you can be admitted to Honors in the Major. Check the requirements for your major carefully, as there may be specific courses that must be included in these units.
- Your cumulative GPA should be at least 3.5 or within the top 5% of majors in your department.
- Your GPA in your major should be at least 3.5 or within the top 5% of majors in your department.
- Most students apply for or are invited to participate in Honors in the Major during the second semester of their junior year. Then they complete the 6 units of course work over the two semesters of their senior year.
- Your honors work culminates with a public presentation of your honors project.

While Honors in the Major is part of the Honors Program, each department administers its own program. Please contact your major department or major advisor to apply.

Well-qualified students majoring in Computer Science are encouraged to apply for Honors in Computer Science. The program is open to junior and senior computer science majors who have completed 9 upper-division units in computer science, including CSCI 411 with a grade of B or higher. Honors students take the honors version of one required course (e.g. CSCI 515H, many 400/500-level courses have an honors version, check with your major advisor) and complete an honors project (CSCI 499H) in the same subject as their honors course. The 6 units of honors courses replaces CSCI 490 and the required course (e.g. CSCI 515H replaces CSCI 515).

Blended BS + MS (BMS) in Computer Science

Qualified students majoring in Computer Science may apply for the Blended BS + MS (BMS) program in Computer Science, allowing them to earn credit towards the MS at the same time they are completing the BS. See the BMS in Computer Science (<https://catalog.csuchico.edu/colleges-departments/college-engineering-computer-science-construction-management/computer-science/computer-science-ms/#programrequirements>) following the description of the MS in Computer Science.

See Bachelor's Degree Requirements (<https://catalog.csuchico.edu/undergraduate-requirements/bachelors-degree-requirements/>) for complete details on general degree requirements. A minimum of 39 units, including those required for the major, must be upper division.

General Education Requirements: 48 units

See General Education (<https://catalog.csuchico.edu/colleges-departments/undergraduate-education/general-education/>) and the Class Schedule (<http://www.csuchico.edu/schedule/>) for the most current information on General Education Requirements and course offerings.

This major has approved GE modification(s). See below for information on how to apply these modification(s).

- CSCI 217/MATH 217 is an approved major course substitution for Critical Thinking (A3).
- CSCI 551 is an approved major course substitution for Upper-Division Scientific Inquiry and Quantitative Reasoning (UD-B).
- CSCI 301W is an approved major course substitution for Upper Division Arts and Humanities (UD-C).

Diversity Course Requirements: 6 units

You must complete a minimum of two courses that focus primarily on cultural diversity. At least one course must be in U.S. Diversity (USD) and at least one in Global Cultures (GC). See Diversity Requirements (<https://catalog.csuchico.edu/undergraduate-requirements/diversity-requirements/>) for a full list of courses. Most courses taken to satisfy these requirements may also apply to General Education (<https://catalog.csuchico.edu/colleges-departments/undergraduate-education/general-education/>).

Upper-Division Writing Requirement

Writing Across the Curriculum (EM 17-009 (<http://www.csuchico.edu/prs/EMs/2017/17-009.shtml/>)) is a graduation requirement and may be demonstrated through satisfactory completion of four Writing (W) courses, two of which are designated by the major department. See Mathematics/Quantitative Reasoning and Writing Requirements (<https://catalog.csuchico.edu/undergraduate-requirements/mathematicsquantitative-reasoning-writing-requirements/>) for more details on the four courses. The first of the major designated Writing (W) courses is listed below.

- Any upper-division Writing (W) course.

The second major-designated Writing course is the Graduation Writing Assessment Requirement (GW) (EO 665 (<https://calstate.policystat.com/policy/9585618/latest/>)). Students must earn a C- or higher to receive GW credit. The GE Written Communication (A2) (<https://catalog.csuchico.edu/colleges-departments/undergraduate-education/general-education/#A2>) requirement must be completed before a student is permitted to register for a GW course.