COMPUTER SCIENCE BS

The Bachelor of Science in Computer Science provides a hands-on curriculum that prepares students for 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/).

E-advising Tools

Use the interactive e-advising tools designed to help students graduate within four years. These tools can be accessed through the Student Center in the Portal (https://portal.csuchico.edu).

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), Electrical/Electronic Engineering (EECE), Business Information Systems (BSIS), or Management Information Systems (MINS) courses used for the major.

Each Computer Science (CSCI) course may be attempted no more than three times. After a third attempt with a grade below C- in any single required CSCI 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
ASTR 361	Astronomy - Stars and Telescopes	
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	
PHYS 204C	Physics for Students of Science and Engineering: Heat, Wave Motion, Sound, Light, and Modern Topics	
Upper Division		
CSCI 301W	Computer's Impact on Society (W)	3
CSCI 311	Algorithms and Data Structures	4
CSCI 370	Introduction to Databases	3
CSCI 415	Theory of Computation	3
CSCI 430	Software Engineering	3
CSCI 440	Operating Systems	4
CSCI/EECE 446	Introduction to Computer Networks and Network Management	3
CSCI 448	Cybersecurity	3
CSCI 490	Capstone	3
CSCI 551	Numerical Methods and Parallel Programming	4
CSCI 565	Server Side App Development	3
or CSCI 567	Client Side App Development	
MATH 314	Probability and Statistics for Science and Technology	4
Select one of the following:		3
CSCI 315	Programming Languages	
CSCI 515	Compiler Design	
Select one of the following:		3
CSCI 580	Artificial Intelligence	
CSCI 581	Machine Learning	
CSCI 582	Bioinformatics	
CSCI 585	Robotics and Machine Intelligence	
Select 11 units from the following: [1]		11
CSCI 220	Introduction to Cloud Infrastructure and Security	
EECE 555	Advanced Computer Networks	
Any upper-division Computer Science (CSCI) course.		
Any upper-division Mathematics (MATH) course that meets the requirements for the minor in mathematics with the exception of MATH 330W and MATH 350.		
Total Units		**87**

[1] A maximum of three 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 six units of honors coursework 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 six units of Honors in the Major coursework. All six units are honors courses (marked by a suffix of H), and at least three of these units are independent study (399H, 499H, 599H) as specified by your department. You must complete each course with a minimum grade of B.
- You must have completed 9 units of upper-division coursework 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.
- Yourcumulative#GPA should be at least 3.5 or within the top 5% of majors in your department.
- Your GPAin 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 six units of coursework over the two semesters of their senior year.
- Your honors work culminates with a public presentation of your honors project.

Honors in the Major is not 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 nine 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 six units of honors courses replace CSCI 490 and the required course (e.g. CSCI 515H replaces CSCI 515).

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: 43 units

See General Education (https://catalog.csuchico.edu/colleges-departments/undergraduate-education-academic-success/general-education/#gerequirementstext) 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 (1B).
- CSCI 551 is an approved major course substitution for Upper-Division Mathematical Concepts and Quantitative Reasoning (UD-2).
- CSCI 301W is an approved major course substitution for Upper Division Arts and Humanities (UD-3).

American Institutions Course Requirements: 6 units

The American Institutions graduation requirement, as mandated in Title 5, Section 40404 (https://govt.westlaw.com/calregs/Document/I56C041434C6911EC93A8000D3A7C4BC3/?viewType=FullText&originationContext=documenttoc&transitionType=CategoryPage requires that students satisfactorily complete courses in United States history, the US Constitution, and government and American ideals (including California state and local government). At Chico State, HIST 130 meets the US history requirement (US-1), and POLS 155 meets the US Constitution and government requirement (US-2) and the California state and local government requirement (US-3). POLS 155 also fulfills three units of GE Area 4, Social and Behavioral Sciences. See Bachelor's Degree Requirements (https://catalog.csuchico.edu/undergraduate-requirements/bachelors-degree-requirements/#amin) for more information.

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 US 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. Many courses taken to satisfy these requirements may also apply to General Education (https://catalog.csuchico.edu/colleges-departments/undergraduate-education-academic-success/general-education/).

Upper-Division Writing Requirement

Writing Across the Curriculum (EM 17-009 (https://www.csuchico.edu/pres/em/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 Writing and Math Requirements (https://catalog.csuchico.edu/undergraduate-requirements/writing-math-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 English Composition (1A) (https://catalog.csuchico.edu/

colleges-departments/undergraduate-education-academic-success/general-education/#1A) requirement must be completed before a student is permitted to register for a GW course.

Definition of Blended Programs

A blended bachelor's and master's degree program combines an existing Chico State bachelor's degree with an existing Chico State master's degree; the blended program allows up to 12 units of the graduate program units to be double-counted at the undergraduate level, for a minimum of 138 units to receive both degrees. Students who complete a blended program will receive both a bachelor's and master's degree. Upon completion of 120 semester units and with the completion of all requirements for the bachelor's degree, students in blended programs will be awarded the bachelor's degree. Upon completion of the requirements for the master's degree, students will be awarded the master's degree.

Students interested in applying to a blended program must be enrolled in a bachelor's degree program at Chico State and must meet and maintain the minimum GPA of the existing master's degree entrance requirements for all bachelor's coursework completed at the time of the application to the blended program, or show promise to reach this level as determined by the program. Once admitted to the blended program, students shall not be required to apply for admission to the master's program.

Blended BS + MS in Computer Science

The blended BS + MS in Computer Science is for highly motivated, well-qualified students. The program allows a student majoring in computer science to progress toward the master's degree in computer science while still an undergraduate. Up to 12 units of approved 400, 500, or 600-level courses from the BS can be double-counted towards the MS if they are completed with a grade of B or higher.

Eligibility

To be eligible to apply for the blended BS + MS in computer science a student must meet the following minimum criteria:

- be an undergraduate with a declared major in computer science,
- have at least junior status and completion of at least 12 upper-division units of Computer Science (CSCI) or Computer Information Systems (CINS) courses including CSCI 311,
- meet a minimum GPA requirement of 2.5 in the major.

Application Procedure

Application deadlines: April 1 for fall start, November 1 for spring start.

Students who meet the eligibility criteria may submit an application for admission to the blended program (https://csuchico.my.site.com/BlendedProgram/s/). Formal application through Cal State Apply is not necessary and the student is not required to pay an application fee. GRE scores are not required. Students must meet the requirements outlined below to change to blended graduate status and continue toward the master's degree.

Grading Requirement

Once in the blended program, students must maintain a minimum 3.0 GPA during their remaining undergraduate and graduate semesters.

Transition to Graduate Status

Students can transition to the graduate program after completing all undergraduate degree requirements with a minimum 2.5 GPA in all coursework. The Office of Graduate Studies and the Graduate Coordinator will verify graduate program eligibility at the end of the semester in which the bachelor's degree is completed. Qualified students change to graduate status effective the following semester.

Requirements for the Blended BS + MS in Computer Science

Once accepted into the blended program as an undergraduate, students can take up to 12 units of graduate-level courses to meet the requirements for the MS. The requirements for the BS in Computer Science are as described in the catalog section for the BS in Computer Science (p. 1); the requirements for the MS are as described in the catalog section for the MS in Computer Science (https://catalog.csuchico.edu/colleges-departments/college-engineering-computer-science-construction-management/computer-science/computer-science-ms/#programrequirementstext).