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 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/.

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 Engineering (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.

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Lower Division</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CSCI 111</td>
<td>Programming and Algorithms I</td>
<td>4</td>
</tr>
<tr>
<td>CSCI 211</td>
<td>Programming and Algorithms II</td>
<td>4</td>
</tr>
<tr>
<td>CSCI/MATH 217</td>
<td>Discrete Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>MATH 120</td>
<td>Analytic Geometry and Calculus</td>
<td>4</td>
</tr>
<tr>
<td>MATH 121</td>
<td>Analytic Geometry and Calculus</td>
<td>4</td>
</tr>
<tr>
<td>Select one of the following:</td>
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<td>3</td>
</tr>
<tr>
<td>CSCI 221</td>
<td>Assembly Language Programming</td>
<td></td>
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<tr>
<td>EECE 237</td>
<td>Embedded Systems Development</td>
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Select two of the following:

- CHEM 107  General Chemistry for Applied Sciences
- CHEM 111  General Chemistry I
- CHEM 108  Organic Chemistry for Applied Sciences
- 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**

- CINS 370  Introduction to Databases
- CINS 448  Cybersecurity
- CINS 467  Web and Mobile App Development
- CSCI 301W Computer's Impact on Society (W)
- CSCI 311  Algorithms and Data Structures
- CSCI 415  Theory of Computation
- CSCI 430  Software Engineering
- CSCI 440  Operating Systems
- CSCI/EECE 446 Introduction to Computer Networks and Network Management
- CSCI 490  Computer Science Capstone
- CSCI 551  Numerical Methods and Parallel Programming
- MATH 314  Probability and Statistics for Science and Technology

Select one of the following:

- CSCI 315  Programming Languages
- CSCI 515  Compiler Design

Select one of the following:

- CSCI 580  Artificial Intelligence
- CSCI 581  Machine Learning
- CSCI 582  Bioinformatics
- CSCI 585  Robotics and Machine Intelligence

Select 11 units from the following:

- EECE 555  Advanced Computer Networks
- Any upper-division Computer Science (CSCI) or Computer Information Systems (CINS) courses
- 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.
- 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 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: 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 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. 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.

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**

**Eligibility**
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.

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**
A student meeting the eligibility criteria may submit an application for admission to the blended BS + MS in computer science. No formal application through the Office of Admissions is required, and the student is not required to pay an admissions fee. GRE scores are not required. The application must be made within the first four weeks of the last semester of the student’s final undergraduate year. Admission to the blended program does not constitute recognition of blended BS + MS graduate status. Students must meet the eligibility requirements outlined below to change to blended BS + MS graduate status and continue toward the MS degree.

**Requirements for the Blended BS + MS in Computer Science**
Once accepted into the blended program as an undergraduate, the student can take 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).

**Grading Requirement**
Once entered into the blended program, the student must maintain the minimum GPA requirement of 3.0 during their remaining undergraduate and graduate semesters.

**Eligibility for Change to MS Graduate Status**
When the student has completed all BS degree requirements with a minimum 2.5 GPA in all BS coursework, they can apply to transition to the MS program. At the conclusion of the semester that the BS degree has been completed, the student submits a request to the Graduate Coordinator to change to graduate status. A Master’s degree program plan is prepared and submitted to the Graduate Coordinator and to the Office of Graduate Studies. The student will be changed to graduate status effective the following semester.