CHEMISTRY BS

More Information

Advising Requirement

Advising is mandatory for this program. Consult your department advisor or program coordinator for 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 Chemistry includes courses in all major chemical subdisciplines: analytical, biochemistry, inorganic, organic, and physical chemistry. Substantial laboratory work, plus complementary courses in mathematics and physics, provide an excellent background for careers in a wide range of areas in science and academia, as well as preparation for professional schools, especially in medicine, dentistry, and pharmacy.

The series of courses follow the approved guidelines from the esteemed American Chemical Society (https://www.acs.org/content/acs/en.html) (ACS). Students can also be certified as professional chemists and awarded the ACS certificate in chemistry upon successful completion of course requirements.

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.

Course Requirements for the Major: 70-72 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.

Course	Title	Units
Lower Division		
Chemistry		
CHEM 111	General Chemistry I	4
CHEM 112	General Chemistry II	4
CHEM 270	Organic Chemistry I	4
Mathematics		
MATH 120	Analytic Geometry and Calculus	4
MATH 121	Analytic Geometry and Calculus	4
MATH 220	Analytic Geometry and Calculus	4
Physics		
PHYS 204A	Physics for Students of Science and Engineering: Mechanics	4
PHYS 204B	Physics for Students of Science and Engineering: Electricity and Magnetism	4
PHYS 204C	Physics for Students of Science and Engineering: Heat, Wave Motion, Sound, Light, and Modern Topics	4
Upper Division		
CHEM 320	Quantitative Analysis	4
CHEM 331	Physical Chemistry I	3
CHEM 332	Physical Chemistry II	3
CHEM 361	Inorganic Chemistry	3
CHEM 370	Organic Chemistry II	3
CHEM 370M	Organic Chemistry Laboratory	2
CHEM 381	Integrated Chemistry Laboratory I	2
CHEM 382	Integrated Chemistry Laboratory II	2
CHEM 401W	Communicating Chemistry (W)	3
CHEM 420	Instrumental Analysis	3
CHEM 451	Biochemistry I	3
CHEM 483W	Integrated Chemistry Laboratory III (W)	2
Select one to three units from the following:		1-3
CHEM 398	Special Topics	
CHEM 399	Special Problems	
CHEM 452	Biochemistry II	
CHEM 453L	Biochemistry Laboratory	
CHEM 453MW	Biochemistry Laboratory (W)	
CHEM 477	Seminar in Organic Spectroscopy	
CHEM 490	Research in Chemistry	
CHEM 491	Research Project	
CHEM 499HW	Honors Research Project (W)	
Total Units		**70-72**

Electives Requirement

To complete the total units required for the bachelor's degree, select additional elective courses from the total University offerings. You should consult with an advisor regarding the selection of courses which will provide breadth to your University experience and possibly apply to a supportive second major or minor.

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.
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- 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.

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.

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).

- CHEM 401W is an approved major course substitution for Upper-Division Scientific Inquiry and Quantitative Reasoning (UD-B).

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.

- CHEM 483W Integrated Chemistry Laboratory III (W)

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.