

# CHEMISTRY BA

The Bachelor of Arts in Chemistry includes courses in all major chemical subdisciplines: analytical, biochemistry, inorganic, organic, and physical chemistry, plus complementary courses in mathematics and physics. With 10 fewer upper-division units than the BS in chemistry (<https://catalog.csuchico.edu/colleges-departments/college-natural-sciences/chemistry-biochemistry/chemistry-bs/>), students have flexibility in their programs to take courses in other disciplines, including prerequisites for the credential program.

This degree is appropriate for students pursuing a teaching credential in science with a concentration in chemistry. This degree is also excellent preparation for students considering chemistry-related interdisciplinary fields.

Students who choose this program should consult with their major advisor.

## 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: 60-64 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
<b>Lower Division</b>		
CHEM 111	General Chemistry I	4
CHEM 112	General Chemistry II	4
CHEM 270	Organic Chemistry I	4
MATH 120	Analytic Geometry and Calculus	4
MATH 121	Analytic Geometry and Calculus	4
MATH 220	Analytic Geometry and Calculus	4
Select one of the following groups: <sup>1</sup>		8-12
<i>Group 1:</i>		
PHYS 202A	General Physics I	
PHYS 202B	General Physics II	
<i>Group 2:</i>		
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	
<b>Upper Division</b>		
CHEM 320	Quantitative Analysis	4
CHEM 331	Physical Chemistry I	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 401W	Communicating Chemistry (W)	3
CHEM 451	Biochemistry I	3
Select one of the following:		3
CHEM 332	Physical Chemistry II	
CHEM 452	Biochemistry II	
CHEM 453MW	Biochemistry Laboratory (W)	
Select two units from the following:		2
Any upper-division courses (300- and 400- level courses) in Chemistry and Biochemistry (CHEM)		
<b>Total Units</b>		<b>60-64</b>

<sup>1</sup> One full sequence (PHYS 202A and PHYS 202B or PHYS 204A, PHYS 204B, and PHYS 204C) must be completed.

## 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.

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 modifications. See below for information on how to apply these modifications.

- 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.

- 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.