

BIOLOGICAL SCIENCES BA

The Bachelor of Arts in Biological Sciences is designed for students who plan to use biology as a foundation for healthcare careers (pre-physician's assistant, pre-nursing, pre-occupational therapist, etc.). It is also suitable for students interested in the pharmaceutical industry, biomedical product management, or health regulatory positions. Note that while this BA may serve some pre-medical students (including osteopathy, dentistry, and optometry), the BS degrees in biological sciences (cellular and molecular biology option) or microbiology may provide better preparation, but can only be completed in four years by students with strong science backgrounds. Students are urged to consult with their advisors about specific requirements. This degree is also appropriate for students pursuing single subject matter preparation in science with a concentration in biological sciences.

The BA in biological sciences requires 60 units in the major, leaving room for additional coursework needed for students planning specific careers, especially if post-baccalaureate training is required. Students are urged to meet with an advisor to help identify additional recommended courses, as well as requirements for service time in healthcare settings.

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.

Course Requirements for the Major: 60 units

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.

Course	Title	Units
Lower Division		
BIOL 103	Human Anatomy	4
BIOL 104	Human Physiology	4
BIOL 109	The Biological University Experience	1
BIOL 161	Principles of Ecological, Evolutionary, and Organismal Biology	4
BIOL 162	Principles of Cellular and Molecular Biology	4
BIOL 163	Principles of Physiology and Development	4
BIOL 211	Allied Health Microbiology	4
CHEM 108	Organic Chemistry for Applied Sciences	4
CHEM 111	General Chemistry I ¹	4
CHEM 112	General Chemistry II ¹	4
MATH 105	Introduction to Statistics	3
Upper Division		
BIOL 303 or BIOL 360	Human Genetics ² Genetics	3

BIOL 311W	Pandemics, Germs, and Society (W)	3
BIOL 492	Seminars in Biological Science	1
CHEM 350	Introductory Biochemistry	3
CHEM 350L	Introductory Biochemistry Laboratory	1
Select three units from the following:		3
BIOL 302W	Evolution (W)	
BIOL 322W	Science and Human Values (W)	
CHLD 333W	Children's Gender and Sexuality Development (W)	
NURS/MCGS 326W	Gender and Sexuality Perspectives on Disease (W)	
PHIL 327W	Health Ethics (W)	
Select up to six units from the following: ³		6
BIOL 318	Biology of Childhood	
BIOL 323	Biology of Sex	
BIOL 345	Health and Lifestyle Diseases	
BIOL 416	Vertebrate Physiology	
BIOL 460	Histology	
BIOL 462	Hematology	
NFSC 310	Global Nutrition	
PHHA 201	Introduction to Public Health	
PSYC 323	Health Psychology	
Total Units		60

¹ CHEM 107 may be substituted for CHEM 111 and CHEM 112 for some students. Please check with your advisor.

² If BIOL 360 (four units) is taken instead of BIOL 303 (three units), choose sufficient units in the following selections to ensure 60 units in the major.

³ Choose sufficient units to ensure at least 60 in the major. Other upper division Biological Sciences (BIOL) courses may be taken with faculty permission.

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.

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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).

- BIOL 360 is an approved major course substitution for Upper Division Physical and Biological Sciences (UD-5).

The following General Education courses are recommended to support students in the BA in biological sciences:

- ANTH 113 or SOCI 100 for Social and Behavioral Sciences (4).

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=CategoryPageItem&contextData=\(sc.Default\)](https://govt.westlaw.com/calregs/Document/I56C041434C6911EC93A8000D3A7C4BC3/?viewType=FullText&originationContext=documenttoc&transitionType=CategoryPageItem&contextData=(sc.Default))), 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.

- BIOL 302W Evolution (W)
- BIOL 322W Science and Human Values (W)
- CHLD 333W Children's Gender and Sexuality Development (W)
- NURS 326W/MCGS 326W Gender and Sexuality Perspectives on Disease (W)
- PHIL 327W Health Ethics (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 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.