

Major Course Requirements

Major in Biology- B.A.

A minimum of 88 hours (40 upper-division hours)

► **Required Core Courses (40 hours):**

BIOL 111+112+113	Biological Foundations	5+5+5
BIOL 222	Introduction to Research Methods	2
BIOL 233	Ecology	4
BIOL 320	Cellular and Molecular Biology	4
BIOL 348	Systems Physiology	5
BIOL 354	Genetics	4
BIOL 396	Seminar (4 quarters)	.5+.5+.5+.5
BIOL 450	Philosophy of Origins	4

► **Required Core Electives (9 hours):**

At least 9 hours from the following: 9

BIOL 323	Vertebrate Biology (4)
BIOL 325	Flowering Plants (3)
BIOL 328	Animal Behavior (4)
BIOL 331	Marine Science (4)
BIOL 338	Field Biology (3)
BIOL 366	Medical Microbiology (5)
BIOL 412	Research in Biology (1-3)
BIOL 419	Developmental Biology (3)
BIOL 422	Advanced Human Anatomy (4)
BIOL 426	Histology (5)
BIOL 430	Neurobiology (4)
BIOL 445	Biotechnology (3)
BIOL 469	Immunology (4)
CHEM 481	Biochemistry I (4)
ENVR 360/L	Conservation Biology & Laboratory (4)

► **Required Cognate Courses (39 hours):**

CHEM 111+112+113	General Chemistry	5+5+5
CHEM 371+372+373	Organic Chemistry	4+4+4
PHYS 111+112+113	General Physics	4+4+4

Recommended Cognate Courses:

CHEM 481	Biochemistry I (4)
MATH 131	Calculus I (4)

This major fulfills the general education requirements in Math and Science.

Student Learning Outcomes

Students will:

- Possess knowledge and understanding of general biological principles.
- Possess knowledge and understanding of the scientific process and techniques, especially as these apply to the biological sciences.
- Successfully communicate in both oral and written format.
- Possess knowledge and understanding of special creation and historical models of origins.
- Successfully prepare for entry into graduate/professional school and employment in the biological sciences.

Occupational Information

What can I do with this major?

The Biology Department offers two majors in Biology, the B.S. and the B.A. For most careers requiring a Biology major, the B.S. degree is recommended because of the greater breadth and depth in life science to which the student is exposed in taking more elective courses.

The B.A. degree is lighter in life science (48 hours vs. 60 hours for the B.S.) and heavier in the humanities (requiring a twelve hour intermediate-level Modern Language course which is normal for any B.A.). The core requirements and cognate courses for the B.A. and B.S. degrees in Biology are the same.

Although the B.A. degree is not recommended as a preparation for graduate school, or for employment at the Bachelor's level, it is suitable as a preparation for medicine, dentistry, law, veterinary medicine, optometry, pharmacy, and optometry but with somewhat less strength in life science than the B.S.

The B.A. degree in Biology may be most attractive for the student wanting to include one year of language study abroad during his/her baccalaureate at PUC.

Additional Education Required?

Additional preparation in graduate or professional school is required for a majority of career opportunities.

Public Sector vs. Denominational

Jobs are available in both the public sector and the denomination.

Job Outlook

Health care jobs such as medicine, dentistry, and other medical professions continue to show a high demand.

General Education Requirements

To view general education requirements for this major, please refer to page A-02, Summary of General Education Requirements: BA degree.

How to Construct Your Own Program

1. Counsel with your advisor.
2. Consider your aptitudes, interests, and available courses.
3. Schedule major courses and cognates first.
4. Fill the rest of your schedule with G.E. requirements.
5. For the freshman year include English, Religion, and PE courses. Also include Basic Algebra I+II unless waived by previous work.

What the Degree Includes

A total of 192 quarter hours including:

1. A minimum of 60 upper division hours.
2. General Education requirements.
3. Major requirements.
4. Minimum 2.0 GPA, overall and major.

For More Information

Website: www.puc.edu/biology

Sample Four-Year Program

This sample curriculum shows you how a program may be constructed, emphasizing the science components. Your program may differ. Be sure to consult your advisor.

First Year	F	W	S
Biological Foundations	5	5	5
Calculus or Precalculus	4	-	-
Introductory Chemistry*	4	-	-
Religion	3	3	-
College English	-	4	4
Exercise Science	-	1	-
General Education/Electives	-	4	8
	16	17	17

Second Year	F	W	S
General Chemistry**	5	5	5
Introduction to Statistics	4	-	-
Ecology	4	-	-
Introduction to Research Methods	-	2	-
Biology Electives***	-	4	5
General Education/Electives	4	6	7
	17	17	17

Third Year	F	W	S
General Physics****	4	4	4
Organic Chemistry	4	4	4
Systems Physiology	5	-	-
Cell & Molecular Biology	-	4	-
Genetics	-	-	4
Seminar (2 quarters)	-	.5	.5
General Education/Electives	4	4	4
	17	16.5	16.5

Fourth Year	F	W	S
Seminar (2 quarters)	.5	.5	-
Philosophy of Origins	-	4	-
General Education/Electives	16	12	16
	16.5	16.5	16

* Needed only if High School chemistry is weak.

** General Chemistry may be taken in year one by students who are well prepared, highly motivated, and very disciplined. It may also be taken in the summer between the first and second year.

*** Biology Electives, 9 hours - see the front of this sheet for the list of options.

**** May be taken in the summer between 2nd and 3rd year.