

Major Course Requirements

A minimum of 88.5 hours (37.5 upper-division hours)

► **Required Core Courses (40.5 hours):**

BIOL 121+122+123	Biological Foundations I,II,III	5+5+5
BIOL 221+ 222	Intro to Research Methods I,II	2+2
BIOL 233	Ecology	4
BIOL 320	Cellular and Molecular Biology	4
BIOL 348	Systems Physiology	5
BIOL 354	Genetics	4
BIOL 397	Biology Seminar	0.5
BIOL 450	Philosophy of Origins	3
SCIE 290	Sophomore Seminar	1

► **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 Biology	4
BIOL 338	Field Biology	3
BIOL 366	Medical Microbiology	5
BIOL 412	Research in Biology	1-2
BIOL 419	Developmental Biology	3
BIOL 422	Advanced Human Anatomy	4
BIOL 426	Histology	5
BIOL 430	Neuroscience	4
BIOL 469	Immunology	4
BIOT 345	Biotechnology I	3
CHEM 481	Biochemistry I	4
ENVR 360+L	Conservation Biology + Lab	4

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

CHEM 111+12+13+L	General Chemistry I, II, III+Lab	5+5+5
CHEM 371+72+73+L	Organic Chemistry I, II, III+Lab	4+4+4
PHYS 111+12+13	General Physics I,II,III	4+4+4

This major fulfills the general education requirement in Science (section V).

Student Learning Outcomes

Students will:

- Identify and explain general biological principles.
- Describe and employ the scientific process and techniques, especially as these apply to the biological sciences.
- Successfully communicate in both oral and written scientific format and be information literate.
- Describe and evaluate the historical and current issues relating to the interface of faith and science.

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 requires fewer core biology electives (9) than the B.S. degree (21). The B.A. degree has a foreign language requirement (1-4 course/4-16 hours).

The B.A. degree is suitable as a preparation for medicine, dentistry, law, veterinary medicine, optometry, pharmacy, and optometry but is not recommended for those students who plan to go to graduate school or who will seek immediate employment in biology-related careers.

The B.A. degree in Biology may be most attractive for the student wanting to study abroad for a year of his or her college program and/or earning a double-major or minor in the humanities.

Additional Education Required?

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

Job Outlook

Health care jobs such as medicine, dentistry, and other medical professions continue to show a high demand. Positions related to the natural sciences depend on the specific occupation. For details, visit www.bls.gov/ooh/life-physical-and-social-science/home.htm.

General Education Requirements

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

How to Construct Your Own Program

1. Consult with your academic 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 I and II and Religion courses. Also include Basic Algebra I+II unless waived by previous work.

What the Degree Includes

- A total of 180 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

Visit our website: puc.edu/academics/departments/biology

email: biology@puc.edu

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 I,II,III	5	5	5
Introductory Chemistry*	4	-	-
Religion Courses	3	3	-
College English I,II	-	4	4
Exercise Science Activity Course	-	1	-
General Education/Electives	3	2	6
	15	15	15

Second Year	F	W	S
General Chemistry I,II,III**	5	5	5
Introduction to Statistics	4	-	-
Ecology	4	-	-
Introduction to Research Methods I,II	2	2	-
Biology Electives***	-	4	5
General Education/Electives	-	3	5
Sophomore Seminar	-	1	-
	15	15	15

Third Year	F	W	S
General Physics I,II,III****	4	4	4
Organic Chemistry I,II,III	4	4	4
Systems Physiology	5	-	-
Cell & Molecular Biology	-	4	-
Genetics	-	-	4
General Education/Electives	2	3	3
	15	15	15

Fourth Year	F	W	S
Biology Seminar	-	0.5	-
Philosophy of Origins	3	-	-
Senior Assessment Seminar	-	-	0.2
General Education/Electives	12	14.5	15
	15	15	15.2

* 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.