BIOLOGY, BA

Studies in biology can serve as preparation for graduate study in the biological sciences, graduate training in health-related professions, teaching, or employment in a laboratory or conservation-related job. The Biology Department offers courses in many areas of biology, ranging from the workings of cells and cellular components to species interactions and ecosystem function. Penn's curriculum keeps pace with recent developments in molecular biology and the study of evolutionary processes, including proteomics, computational genomics, molecular evolution, and epigenetics. The Biology Major allows students to explore the wide range of topics in Biology, while also providing a strong foundation in core subject areas such as cell and molecular biology, genetics, physiology, and ecology and evolution.

The minimum total course units (https://www.college.upenn.edu/credits-needed-major/) for graduation in this major is 36. Double majors may entail more course units.

With permission from the Undergraduate Chair, two course units away or LPS courses may count toward the Biology major. This limit does not apply to Study Abroad.

For more information: http://www.bio.upenn.edu/undergraduate/current-students/major-requirements (http://www.bio.upenn.edu/undergraduate/current-students/major-requirements/)

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum/) page.

Code	Title	Course Units
College General Education Requirements and Free Electives		
Foundational Approaches + Sectors[1] + Free Electives		19
Major Requirements		
Introductory Biology Requirement		
Select one of the following Tracks:		3
Track 1 (3 course units)		
Students must take all of the following courses, plus one additional BIOL course 2000-level or higher		
BIOL 1121	Introduction to Biology - The Molecular Biology of Life	
BIOL 1123	Introductory Molecular Biology Laboratory	
BIOL 1124	Introductory Organismal Biology Lab	
Track 2 (3 course units):		
BIOL 1101	Introduction to Biology A	
BIOL 1102	Introduction to Biology B	
Physical Sciences, Calculus, Statistics, and Computer Science		
Select 4 course units in Chemistry, MATH (Calculus), Statistics, Physics, Computer Science, [2]		4
CHEM 1011	Introduction to General Chemistry I	
CHEM 1021	Introduction to General Chemistry II	
CHEM 1012	General Chemistry I	
CHEM 1022	General Chemistry II	
CHEM 1101	General Chemistry Laboratory I	
CHEM 1102	General Chemistry Laboratory II	
PHYS 0101	General Physics: Mechanics, Heat and Sound	
PHYS 0102	General Physics: Electromagnetism, Optics, and Modern Physics	
PHYS 0150	Principles of Physics I: Mechanics and Wave Motion	
PHYS 0151	Principles of Physics II: Electromagnetism and Radiation	
MATH 1300	Introduction to Calculus	
MATH 1400	Calculus, Part I	
MATH 1410	Calculus, Part II	
BIOL 2510	Statistics for Biologists	
STAT 1110	Introductory Statistics	
STAT 1020	Introductory Business Statistics	
CIS 1200	Programming Languages and Techniques I	
CIS 1600	Mathematical Foundations of Computer Science	
Intermediate Level Biology Courses		
Select two courses in each of the two groups:		4
Group 1:		
BIOL 2010	Cell Biology	
BIOL 2110	Molecular and Cellular Neurobiology	
BIOL 2210	Molecular Biology and Genetics	
BIOL 2810	Biochemistry	
or CHEM 251	Principles of Biological Chemistry	
Group 2:		
BIOL 2140	Evolution of Behavior: Animal Behavior	
BIOL 3310	Principles of Human Physiology	
or BIOL 2311	Human Physiology	
BIOL 2410	Evolutionary Biology	
BIOL 2610	Ecology: From individuals to ecosystems	
Additional Biology/Biology-Related Requirement		
Select 6 additional course units of Biology with:		6
Attribute: ABB2 (http://catalog.upenn.edu/attributes/abb2/)		
Attribute: ABXD (http://catalog.upenn.edu/attributes/abxd/)		
Attribute: ABAM (http://catalog.upenn.edu/attributes/abam/)		
Attribute: ABCM (http://catalog.upenn.edu/attributes/abcm/)		
Attribute: ABAN (http://catalog.upenn.edu/attributes/aban/)		
Attribute: ABCB (http://catalog.upenn.edu/attributes/abcb/)		
Attribute: ABEE (http://catalog.upenn.edu/attributes/abee/)		
Attribute: ABGD (http://catalog.upenn.edu/attributes/abgd/)		
Attribute: ABGG (http://catalog.upenn.edu/attributes/abgg/)		
Attribute: ABMD (http://catalog.upenn.edu/attributes/abmd/)		
Attribute: ABMI (http://catalog.upenn.edu/attributes/abmi/)		

Attribute: ABMC (http://catalog.upenn.edu/attributes/abmc/)	
Or, BIOL courses 2000-5999 except courses specifically for LPS (BIOL 2001, 2201, 2301, 2701, 2801, 3004, 3006, and 3313). Three of them may be other Biology related courses	
Total Course Units	**36**

[1] You may count no more than one course toward both a Major and a Sector requirement. For Exceptions, check the Policy Statement (http://www.college.upenn.edu/sectors-policy/).

[2] A fifth course is needed if the courses total less than 4 course units.

Honors

Applicants must have a minimum GPA of 3.25 in the major and the thesis must be approved by the departmental honors committee.

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2025 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.