

Biological Sciences Major

www.pitt.edu/~biology

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The biological sciences major is intended for the biology student who wishes to develop an individualized combination of courses at the advanced level. The student is free to plan a curriculum of great breadth or to choose an area of specialization not offered as a major by the department. Most of the undergraduates in our department choose the biological sciences major. This major is suitable for those planning a career in which general familiarity with biological topics is desirable, such as jobs in scientific journalism, biological and pharmaceutical supply industries, biological or medical research, scientific libraries and museums, or in any industry where the products or byproducts have potential biological impact. Completing the biological sciences major fulfills the basic science requirements for admission to medical, dental, and other health professional schools, and to graduate programs in biology.

Required courses for the Biological Sciences major

Biological Science courses

BIOSC 0150, BIOSC 0160 Foundations of Biology 1, 2
BIOSC 0050, BIOSC 0060 Foundations of Biology Lab 1, 2
BIOSC 0350 Genetics
BIOSC 0370 Ecology **or** 1130 Evolution
BIOSC 1000 Biochemistry*

* Students may choose the alternate sequence BIOSC 1810 (Macromolecular Structure and Function) **and** 1820 (Metabolic Pathways) in lieu of BIOSC 1000. In this case, students take 12 BIOSC elective credits rather than 15 as specified in **elective courses**.

Chemistry courses

CHEM 0110, CHEM 0120 General Chemistry 1, 2
CHEM 0310, CHEM 0320 Organic Chemistry 1, 2
CHEM 0330, CHEM 0340 Organic Chemistry Lab 1, 2

Mathematics courses

MATH 0220 Analytic Geometry and Calculus 1
MATH 0230 Analytic Geometry and Calculus 2 **or**
STAT 1000 Applied Statistical Methods

Physics Courses

Choose one of the following pairs

PHYS 0110, PHYS 0111 Introduction to Physics 1, 2
PHYS 0174, PHYS 0175 Basic Physics for Science & Engineering 1, 2

Note: While not required for the major, PHYS 0212 Introduction to Laboratory Physics **or** PHYS 0219 Basic Laboratory Physics for Science and Engineering is useful for graduate study in certain sciences and is required for admission to many medical and dental schools.

Elective courses

Fifteen BIOSC credits, which must include at least two lab courses, **or** one lab course **and** one field course. BIOSC 1690, 1901, 1903, 1904 do **not** count toward these credits. Up to six credits from the following courses may be used toward the electives.

ANTH 1601, 1602, 1603, 1605, 1611
NROSCI 1000, 1012, 1017, 1020, 1045

Note: Any University Honors College (UHC) equivalents to required courses or elective courses are also acceptable.

Grade requirements: Each required BIOSC course for the major must be completed with a grade of C or better. The elective courses for the major must also be completed with a grade of C or better. A minimum GPA of 2.0 in all departmental courses taken is required for graduation. If a C or lower is earned in an elective course for the major but is not repeated, the course will be used to calculate the overall GPA but will not be counted toward the 32 credits required for the major. Students must also earn a minimum GPA of 2.0 in the co-requisite Chemistry, Mathematics, and Physics courses. A passing grade of C or lower in a co-requisite course can be accepted if balanced by a higher grade in another co-requisite course so that the co-requisite GPA is 2.0 or higher.

Satisfactory/No Credit option: One BIOSC course may be taken on an S/NC basis.

Writing (W) requirement: Students must complete at least one (1) W-course in the major.

Related area: The chemistry requirements satisfy the related area requirement for the biological sciences major and the chemistry minor.

Advising: The Biological Sciences Departmental Advisors are available to discuss the major and answer your questions. You are welcome and encouraged to stop by the biological sciences advising office, A230 Langley Hall, to peruse the handouts or meet with an advisor even before declaring a major. They love visitors! After declaring a major in biological sciences, students will be advised officially by and register for classes with the biological sciences advising office.

Advising: Christine Berliner
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Declaring the major: Before students officially declare the Biological Sciences major, they must have completed BIOSC 0150, 0160 and CHEM 0110, 0120 with a grade of C or better. Transfer students who have finished these requirements prior to admission to the University of Pittsburgh are asked to complete one term of course work, including at least one BIOSC course that counts toward the major before declaring.

Other Biological Sciences major options

Ecology and Evolution
Microbiology
Molecular Biology

Checklist for the Biological Sciences major

Biological Science courses

_____ BIOSC 0150 **or** BIOSC 0715
_____ BIOSC 0050
_____ BIOSC 0160 **or** BIOSC 0716
_____ BIOSC 0060
_____ BIOSC 0350 **or** BIOSC 0355
_____ BIOSC 0370 **or** BIOSC 1130
_____ BIOSC 1000 **or** BIOSC 1810 **and** BIOSC 1820

Chemistry courses

_____ CHEM 0110 **or** CHEM 0710
_____ CHEM 0120 **or** CHEM 0720
_____ CHEM 0310 **or** CHEM 0730
_____ CHEM 0330
_____ CHEM 0320 **or** CHEM 0740
_____ CHEM 0340 **or** CHEM 0750

Mathematics courses

_____ MATH 0220
_____ MATH 0230 **or** MATH 0235 **or** STAT 1000

Physics courses

_____ PHYS 0110 **or** PHYS 0174 **or** PHYS 0475
_____ PHYS 0111 **or** PHYS 0175 **or** PHYS 0476

Elective courses (15 credits)

_____ BIOSC _____
_____ BIOSC _____
_____ BIOSC _____
_____ BIOSC _____
_____ BIOSC _____ (Lab Course)
_____ BIOSC _____ (Lab **or** Field Course)
_____ BIOSC WRIT

Note: Up to six credits of the following approved ANTH and/or NROSCI can be used to satisfy BIOSC elective requirements.

ANTH 1601 Structure and Function
ANTH 1602 Human Skeletal Analysis
ANTH 1603 Human Origins
ANTH 1605 Primate Anatomy
ANTH 1611 Evolutionary Theory
NROSCI 1000 Introduction to Neuroscience
NROSCI 1012 Neurophysiology
NROSCI 1017 Synaptic Transmission
NROSCI 1020 Homeostasis
NROSCI 1045 Topics in Neuroscience