



Pitt

Kenneth P. Dietrich
School of Arts and Sciences

Biological Sciences Major

www.biology.pitt.edu

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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 Foundations of Biology 1
BIOSC 005X Foundations of Biology Lab 1
BIOSC 0160 Foundations of Biology 2
BIOSC 006X Foundations of Biology Lab 2
BIOSC 0350 Genetics
BIOSC 0370 Ecology **or** 1130 Evolution
BIOSC 1000 Biochemistry*

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

Chemistry courses

CHEM 0110 General Chemistry 1
CHEM 0120 General Chemistry 2
CHEM 0310 Organic Chemistry 1
CHEM 0320 Organic Chemistry 2
CHEM 0345 Organic Chemistry Lab

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 **or**
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 & Engineering, is useful for graduate study and 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 **and** BIOSC 1010. BIOSC 1690, 1900-1907 do **not** count toward these credits.

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

Course requirements

Higher Level course requirement

Students **MUST** take one higher level BIOSC elective course as part of their 15 credits of BIOSC electives. A higher-level course has at least one pre-requisite beyond BIOSC 0160. For example, BIOSC 1320 Population Biology requires BIOSC 0160 and BIOSC 0370 as pre-requisites. Contact a Biology Advisor for a list of higher-level courses.

Lab requirement: Students must complete at least two BIOSC labs for the major and at least one of them must be taken at the Pittsburgh Campus. A Pymatuning (PLE) course can count as a lab.

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

Grade requirements

BIOSC courses: 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 departmental GPA but will not be counted toward the 32 credits required for the major.

Co-Requisite courses: 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, **except** for CHEM 0110 and CHEM 0120, if balanced by a higher grade in another co-requisite course so that the co-requisite GPA is 2.0 or higher. Students **must** pass CHEM 0110 and CHEM 0120 with a grade of **C** (not C-) or better for the major.

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

Advising

The Biological Sciences Departmental Advisors are located in A258 Langley Hall. You are encouraged to stop by to peruse handouts or meet with an advisor even before declaring a major. They love visitors! Students will officially be advised by the Biological Sciences Advising office after declaring a major offered in the department.

Advisors

Available year round

Christine Berliner	Kevin Wu
LANGY A258	LANGY A258
412-624-4819	412-624-4273

Available during the academic year

Ellen Kelsey	Jessica Wandelt	Dan Wetzel
LANGY A258	LANGY A258	LANGY A258
412-624-0421	412-624-7192	412-648-4286

Advising e-mail: BioAdv@Pitt.edu

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 (not 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

Computational Biology	Ecology and Evolution
Microbiology	Molecular Biology

Checklist for the Biological Sciences major

Biological Science courses

_____ BIOSC 0150 or 0715 (UHC)
_____ BIOSC 005X
_____ BIOSC 0160 or 0716 (UHC)
_____ BIOSC 006X
_____ BIOSC 0350
_____ BIOSC 0370 or 1130
_____ BIOSC 1000 or (1810 and 1820)

Chemistry courses

_____ CHEM 0110 or 0710 (UHC)
_____ CHEM 0120 or 0720 (UHC)
_____ CHEM 0310 or 0730 (UHC)
_____ CHEM 0320 or 0740 (UHC)
_____ CHEM 0345

Mathematics courses

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

Physics courses

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

Elective courses (15 credits)

_____ BIOSC _____
_____ BIOSC _____
_____ BIOSC _____
_____ BIOSC _____ (Higher Level)
_____ BIOSC _____ (Lab Course)
_____ BIOSC _____ (Lab or Field Course)
_____ BIOSC 1010 (Writing-intensive)

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

Anthropology

ANTH 1601 Structure and Function
ANTH 1603 Human Origins
ANTH 1605 Primate Anatomy

Neuroscience

NROSCI 1000 Introduction to Neuroscience
NROSCI 1012 Neurophysiology
NROSCI 1017 Synaptic Transmission

Chemistry

CHEM 1830 Synthetic Biology

Note about Physiology: Students may take only **one** of the following physiology courses towards any major in the Biological Sciences Dept.

BIOSC 1070/NROSCI 1070 UHC Human Physiology
BIOSC 1250/NROSCI 1250 Human Physiology
BIOSC 1435 Environmental Physiology of Animals