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.

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Revised: 05/2019
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 ______ (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