BIOLOGICAL SCIENCES MAJOR

Requirements

The Department of Biological Sciences offers two undergraduate degrees: the Bachelor of Science (B.S.) and the Bachelor of Arts (B.A.). Beyond the chemistry, physics, and math requirements, majors must complete a minimum of nine courses in biology for a B.S. degree and seven for a B.A. degree. Lecture and lab courses must be taken concurrently.

The program of biology courses is structured in the following way:

Course	Title	Credits
Biology Courses		
Core Courses		
BISC 1403 & BISC 1413	Introductory Biology I and Introductory Biology Lab I	5
BISC 1404 & BISC 1414	Introductory Biology II and Introductory Biology Lab II	5
BISC 2539 & BISC 2549	General Genetics and General Genetics Lab	5
BISC 2561 & BISC 2571	Ecology and Ecology Lab	5
Distribution Courses		
Select a minimum of two of the following:		
BISC 3221 & BISC 3231	Human Anatomy and Human Anatomy Lab	
BISC 3132 & BISC 3142	Human Physiology and Human Physiology Lab	
BISC 3405 & BISC 3415	Plant Biology and Plant Biology Lab	
BISC 3521	Biochemistry	
BISC 3643 & BISC 3653	Microbiology and Microbiology Lab	
BISC 3752	Molecular Biology	
BISC 3754	Cell Biology	
Chemistry Courses		
CHEM 1321 & CHEM 1331	General Chemistry I and General Chemistry Lab I	6
CHEM 1322 & CHEM 1332	General Chemistry II and General Chemistry Lab II	6
CHEM 2521 & CHEM 2541	Organic Chemistry I and Organic Chemistry Lab I	6
CHEM 2522 & CHEM 2542	Organic Chemistry II and Organic Chemistry Lab II	6
Physics Courses		
Select one of the following sequences:		
Sequence 1:		
PHYS 1701 & PHYS 1511	Physics I and Physics I Lab	
PHYS 1702 & PHYS 1512	Physics II and Physics II Lab	
Sequence 2:		
PHYS 1501 & PHYS 1511	General Physics I and Physics I Lab	
PHYS 1502 & PHYS 1512	General Physics II and Physics II Lab	
Calculus Course [2]		
Select one of the following:		
MATH 1203	Applied Calculus I	
MATH 1204	Applied Calculus II	
MATH 1206	Calculus I	
MATH 1207	Calculus II	
Elective Courses		
Select three elective BISC courses for the B.S. degree and one for the B.A. degree [3]		

[1] Either sequence of introductory courses is a prerequisite for all other biology courses in the major.

[2] A score of 4 or 5 in AP Calculus AB or BC will fulfill the Mathematics requirement.

[3] Elective courses comprise all courses with the attribute BIEL (see list below). Such courses include additional Distribution courses **beyond** the two needed to meet Distribution courses requirement. Courses counted toward the Distribution course requirement **cannot** be double-counted toward the Elective course requirement. Only one tutorial (BISC 4999) can count toward the major.

Elective courses

Courses in this group have the BIEL attribute.

Course	Title	Credits
BISC 3000	Environmental Science	3
BISC 3132	Human Physiology	3
BISC 3221	Human Anatomy	3
BISC 3244	Evolutionary Biology	3
BISC 3405	Plant Biology	3
BISC 3466	Urban Ecology & Evolution	3
BISC 3521	Biochemistry	3
BISC 3643	Microbiology	3
BISC 3752	Molecular Biology	3
BISC 3754	Cell Biology	3
BISC 3893	Introduction to Virology	3
BISC 4530	Cancer Biology and Signaling	3
BISC 4532	Neuroscience	3
BISC 4575	Conservation Biology	4
BISC 4642	Animal Behavior	4
BISC 4693	Developmental Biology	3
BISC 4792	Senior Thesis Research	4
BISC 4999	Research Tutorial	0-4
ENVS 3000	Environmental Science	3

It is recommended that first year students take the following:

Course	Title	Credits
Calculus (one of the following):		
MATH 1206	Calculus I	

MATH 1207	Calculus II	
MATH 1203	Applied Calculus I	
MATH 1204	Applied Calculus II	
BISC 1403 & BISC 1413	Introductory Biology I and Introductory Biology Lab I	5
CHEM 1321 & CHEM 1331	General Chemistry I and General Chemistry Lab I	6
BISC 1404 & BISC 1414	Introductory Biology II and Introductory Biology Lab II	5
CHEM 1322 & CHEM 1332	General Chemistry II and General Chemistry Lab II	6

Note that BISC 1403, BISC 1404, CHEM 1321, and CHEM 1322 (with their respective labs) are prerequisites for all advanced biology courses.

The following requirement is best fulfilled in sophomore year:

Course	Title	Credits
CHEM 2521 & CHEM 2541	Organic Chemistry I and Organic Chemistry Lab I	
CHEM 2522 & CHEM 2542	Organic Chemistry II and Organic Chemistry Lab II	

The following requirement is best fulfilled in junior year:

Course	Title	Credits
Physics sequence options:		
Sequence 1:		
PHYS 1701 & PHYS 1511	Physics I and Physics I Lab	
PHYS 1702 & PHYS 1512	Physics II and Physics II Lab	
Sequence 2:		
PHYS 1501 & PHYS 1511	General Physics I and Physics I Lab	
PHYS 1502 & PHYS 1512	General Physics II and Physics II Lab	

C- is the minimum accepted grade for all courses in the biology major. All majors must meet with their adviser each semester prior to registration to have their course schedules approved.

The following courses are college Core Curriculum Life Science courses and are not applicable to the major:

Course	Title	Credits
BISC 1000	Life on the Planet Earth	
BISC 1001	Human Biology	
BISC 1002	Ecology: A Human Approach	
BISC 1005	Aids: A Conspiracy of Cells	
BISC 1008	The Finch, the Seed, and the Storm: Adventures in Contemporary Evolution	
BISC 1010	Foundations of Biology	

Biology majors are expected to take all of their required major courses at Fordham. Exceptions may be made on a case-by-case basis for certain rare and compelling reasons. Under no circumstances can more than two external courses be transferred toward the major.

Availability

The major in biological sciences is available at Fordham College at Rose Hill. Students in Fordham's School of Professional and Continuing Studies may major in biological sciences only if they receive the approval of their advising dean and/or department, and their schedules are sufficiently flexible to permit them to take day courses at the Rose Hill campus.

Fordham College at Rose Hill students: *The requirements above are in addition to those of the* Core Curriculum*.*

Professional and Continuing Studies students: *The requirements above are in addition to those of the* PCS Core Curriculum *and any additional electives that may be required to earn a minimum of 124 credits.*

CIP Code

26.0101 - Biology/Biological Sciences, General.
You can use the CIP code to learn more about career paths associated with this field of study and, for international students, possible post-graduation visa extensions. Learn more about CIP codes and other information resources.