

Biology, BS (New York)

The biology curriculum lays the groundwork for strong scientific training with basic coursework in mathematics, chemistry, and physics, relevant to biology. Students explore the organization and processes of life across broad areas of the field, from molecules and cells through organs and organ systems to populations, ecosystems, and evolution. Students can select advanced electives to specialize in a subdiscipline of biology such as developmental biology, stem cell biology, microbiology, or physiology.

This program is currently only available to former Marymount Manhattan College students who are eligible for continued enrollment at Northeastern University. This program includes required courses that will be taught on ground at the Northeastern New York City campus.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (<https://catalog.northeastern.edu/undergraduate/university-academics/university-wide-requirements/>).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (<https://catalog.northeastern.edu/undergraduate/university-academics/general-education-requirements/#nupathtext>).

New York State Liberal Arts and Sciences Requirements

All undergraduate students enrolled in programs at the New York campus are required to fulfill New York State Liberal Arts and Sciences requirements (<https://catalog.northeastern.edu/undergraduate/university-academics/general-education-requirements/#nyliberalartsandsciencestext>).

Biology Major Requirements

Code	Title	Hours
Introduction to College		
BIOL 1000 or INSC 1000	Biology at Northeastern Science at Northeastern	1
Biology Core Courses		
BIOL 1107 and BIOL 1108	Foundations of Biology and Lab for BIOL 1107	5
BIOL 1113	General Biology 2	4
BIOL 1114	Lab for BIOL 1113	1
BIOL 2301 and BIOL 2302	Genetics and Molecular Biology and Lab for BIOL 2301	5
BIOL 2309	Biology Project Lab	4
BIOL 3611 and BIOL 3612	Biochemistry and Lab for BIOL 3611	5

Biology Major Electives

Code	Title	Hours
Organismal and Evolutionary Biology		
Complete one of the following:		4-5
BIOL 2327	Human Parasitology	
BIOL 3427	Microbial Evolution	
EEMB 2302 and EEMB 2303	Ecology and Lab for EEMB 2302	
EEMB 2400	Introduction to Evolution	
EEMB 3460	Conservation Biology	
EEMB 3466	Disease Ecology	
EEMB 3600	Animal Behavior	

Intermediate and Advanced Biology

Complete three of the following: 12-15

BIOL 2329	Bioethics
BIOL 3421	Microbiology
BIOL 3422	Lab for BIOL 3421
BIOL 3423	Animal Models in Biomedical Research
BIOL 3603	Mammalian Systems Physiology
BIOL 3607	Current Trends in Reproductive Sciences
BIOL 4705	Neurobiology of Cognitive Decline
BIOL 4707	Cell and Molecular Biology
BIOL 5591	Advanced Genomics

One of the three intermediate/advanced electives can be a research course:

BIOL 4970	Junior/Senior Honors Project 1
BIOL 4971	Junior/Senior Honors Project 2
BIOL 4991	Research
BIOL 4994	Internship

Biology Capstone

Code	Title	Hours
------	-------	-------

 Complete one of the following: 1-4

BIOL 4701	Biology Capstone
BIOL 4971	Junior/Senior Honors Project 2
BIOL 4900	Biology Research Capstone (concurrent with BIOL 4991 or BIOL 4994, which may be used toward Intermediate/Advanced Elective)

Supporting Courses

Code	Title	Hours
------	-------	-------

Mathematics

MATH 1341	Calculus 1 for Science and Engineering	4
-----------	--	---

Statistics

ENVR 2500 and ENVR 2501	Biostatistics and Lab for ENVR 2500	5
----------------------------	--	---

Chemistry

A grade of D or better is required in CHEM 1161 and CHEM 1162:

CHEM 1161 and CHEM 1162 and CHEM 1163	General Chemistry for Science Majors and Lab for CHEM 1161 and Recitation for CHEM 1161	5
CHEM 2311 and CHEM 2312	Organic Chemistry 1 and Lab for CHEM 2311	5
CHEM 2313 and CHEM 2314	Organic Chemistry 2 and Lab for CHEM 2313	5

Physics 1

PHYS 1161	Physics 1	4
PHYS 1162	Lab for PHYS 1161	1
PHYS 1163	Recitation for PHYS 1161	0

Physics 2

PHYS 1165	Physics 2	4
PHYS 1166	Lab for PHYS 1165	1
PHYS 1167	Recitation for PHYS 1165	0

Intermediate or Advanced Science

Complete one course from the following: 4

BIOL 2301 to BIOL 5999
CHEM 2311 to CHEM 5999
EEMB 2290 to EEMB 5999
ENVR 2310 to ENVR 5999

MATH 2280 to MATH 5999

PHYS 2303 to PHYS 5999

PSYC 2290 to PSYC 5999

Writing Requirements

Code	Title	Hours
ENGW 1111	First-Year Writing	4
or ENGW 1102	First-Year Writing for Multilingual Writers	
ENGW 3307	Advanced Writing in the Sciences	4
or ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Biology Major Credit/GPA Requirement

Complete 79 semester hours in the major. A minimum 2.000 GPA in the following course codes is required: BIOC, BIOL, BNSC, CHEM, EEMB, ENVR, MATH, PHYS, PSYC.

Due to overlap in course content, double majoring in biology and cell and molecular biology, biology and biochemistry, biology and behavioral neuroscience, or biology and marine biology is not permitted.

Optional Co-op

Code	Title	Hours
Successful completion of EXED 2000 is required for participation in co-op. (https://catalog.northeastern.edu/undergraduate/academic-policies-procedures/cooperative-education/)		
EXED 2000	Professional Development for Co-op	1
COOP 3945	Co-op Work Experience	0
or COOP 3946	Co-op Work Experience--Half Time	
or COOP 3947	Co-op Work Experience Abroad--Half Time	
or COOP 3948	Co-op Work Experience Abroad	

NUpath Requirements Satisfied

- Advanced Writing in the Discipline
- Analyzing and Using Data
- Conducting Formal and Quantitative Reasoning
- Demonstrating Thought and Action in a Capstone
- Engaging with the Natural and Designed World
- Writing in the First Year
- Writing-Intensive in the Major

Program Requirement

130 total semester hours required