

Biological Science, BS

The Bachelor of Science in Biological Science program is designed for students who wish to pursue a science-based career or continue their education by obtaining a graduate degree in a health- or science-related field. The program offers the mathematical, chemical, and physical background necessary for understanding biology along with the oral and written communication, critical thinking, and problem-solving skills necessary for success in the workplace. The program fosters a basic understanding of the organization and the processes of life, from molecules and cells through organs and organ systems to populations, species, ecosystems, and evolution. Graduates of the program pursue careers in areas such as research and development or sales and marketing in biological and pharmaceutical companies. Students may also choose to continue their education in graduate or medical school.

Program Requirements

Complete all courses listed below unless otherwise indicated.

University-Wide Requirement

Minimum 120 total semester hours required

Minimum 2.000 GPA required

Students must earn a minimum of 60 Northeastern University semester hours in order to receive a bachelor's degree.

Note: Individual program requirements may exceed the above minima.

NUPath Requirements

All undergraduate students are required to complete the NUPath Requirements (<http://catalog.northeastern.edu/professional-studies/university-academics/nupath>).

Foundation Courses

51 semester hours required

Code	Title	Hours
English		
Complete one of the following:		4
ENG 1105 and ENG 1106	College Writing 1 and Lab for ENG 1105	
ENG 1103 and ENG 1104	College Writing 1 for Nonnative Speakers and Lab for ENG 1103	
Complete the following two courses with corresponding labs:		
ENG 1107 and ENG 1108	College Writing 2 and Lab for ENG 1107	4
ENG 3105 and ENG 3106	Writing for the Professions: Science and Engineering and Lab for ENG 3105	4
Mathematics		
MTH 2100	Calculus 1	3
MTH 2105	Calculus 2	3
MTH 2310	Statistics for the Behavioral and Social Sciences	3
Biology		
BIO 1100 and BIO 1101	Principles of Biology 1 and Lab for BIO 1100	4

BIO 1200 and BIO 1201	Principles of Biology 2 and Lab for BIO 1200	4
Chemistry		
CHM 1100 and CHM 1101	General Chemistry 1 and Lab for CHM 1100	4
CHM 1200 and CHM 1201	General Chemistry 2 and Lab for CHM 1200	4
Physics		
PHY 1200 and PHY 1201	Physics 1 and Lab for PHY 1200	4
PHY 2200 and PHY 2201	Physics 2 and Lab for PHY 2200	4
Information Technology		
ITC 1000 or ITC 2016	Computer Applications End-User Data Analysis Tools	3
Philosophy		
PHL 2140	Ethical Issues in Science and Engineering	3

Major Required Courses

26 semester hours required

Code	Title	Hours
Chemistry		
CHM 2110 and CHM 2111	Organic Chemistry 1 and Lab for CHM 2110	4
CHM 2200 and CHM 2201	Organic Chemistry 2 and Lab for CHM 2200	4
Biology		
BIO 2100 and BIO 2101	Microbiology and Lab for BIO 2100	4
BIO 2300	Cell Biology	3
BIO 2500 and BIO 2501	Genetics and Molecular Biology and Lab for BIO 2500	4
BIO 3100 and BIO 3101	Biochemistry and Lab for BIO 3100	4
Capstone		
BIO 4850	Biological Sciences Senior Project	3

Major Elective Courses

Code	Title	Hours
Complete three from the following:		
BIO 1600 and BIO 1601	Human Anatomy and Physiology 1 and Lab for BIO 1600	9
BIO 1700 and BIO 1701	Human Anatomy and Physiology 2 and Lab for BIO 1700	
BIO 4215	Human Parasitology	
BTC 1300 and BTC 1301	Introduction to Biotechnology and Lab for BTC 1300	
BTC 2700	Cell and Tissue Culture Techniques	
BTC 3300	Technology of Biomaterials	
BTC 4200	Genomics, Proteomics, and Bioinformatics	

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BTC 4300	Biotechnology and Pharmaceutical Processing
BTC 4450	Quality Control and Validation Issues
HSC 1200	Nutrition
HSC 3300	Epidemiology
HSC 3310	Pathophysiology
HSC 3320	Pharmacology

Electives

Complete a minimum of 34 semester hours to reach 120 semester hours.

Plan of Study

Term 1	Hours
Complete one of the following:	4
ENG 1105 and ENG 1106	
ENG 1103 and ENG 1104	
MTH 2100	3
BIO 1100 and BIO 1101	4
CHM 1100 and CHM 1101	4
	15
Term 2	Hours
ENG 1107 and ENG 1108	4
MTH 2105	3
BIO 1200 and BIO 1201	4
CHM 1200 and CHM 1201	4
	15
Term 3	Hours
MTH 2310	3
PHY 1200 and PHY 1201	4
CHM 2110 and CHM 2111	4
BIO 2100 and BIO 2101	4
	15
Term 4	Hours
PHY 2200 and PHY 2201	4
CHM 2200 and CHM 2201	4
ITC 1000 or 2016	3
Open elective	3
	14
Term 5	Hours
ENG 3105 and ENG 3106	4
BIO 2300	3
BIO 2500 and BIO 2501	4

Open elective	3
Open elective	3
	17
Term 6	Hours
BIO 3100 and BIO 3101	4
PHL 2140	3
Open elective	3
Open elective	3
Open elective	3
	16
Term 7	Hours
Major elective	3
Major elective	3
Open elective	3
Open elective	3
Open elective	1-3
	13-15
Term 8	Hours
BIO 4850	3
Major elective	3
Open elective	3
Open elective	3
Open elective	3
	15

Total Hours: 120-122