

PlusOne Programs

MS Biotechnology

Northeastern University
College of Science

Eligibility

Students must be pursuing one of the following undergraduate degrees:

- BS Biochemistry
- BS Biology
- BS Biotechnology
- BS Cell and Molecular Biology
- BS Chemistry

A minimum cumulative 3.000 GPA is required.

COURSE PREREQUISITES

BS Biochemistry

BS Biology

BS Cell and Molecular Biology

- BIOL 3611/3612 Biochemistry
- BIOL 2301/2302 Genetics and Molecular Biology
- CHEM 2313/2314 Organic Chemistry

BS Chemistry

- CHEM 2317/2318 Organic Chemistry
2 for Majors
- CHEM 2321/2322/2323 Analytical
Chemistry

Curriculum Requirements

A maximum of 17 graduate credits completed as an undergraduate can be used toward the Master of Science degree.

A fixed series of prescribed courses taken as an undergraduate (see on the next page) replaces some of the required courses and science electives taken for the Bachelor of Science degree.

Scan for
application
requirements



REQUIRED COURSES TO COMPLETE AS AN UNDERGRADUATE STUDENT

BS Biochemistry

BS Biology

- BIOL 4707 Cell & Molecular Biology (4 SH). This undergraduate course replaces the requirement but not the credits for the graduate courses BIOT 5750 (3 SH) and BIOT 5145 (1 SH).
- BIOT 5621 or CHEM 5620 Protein Principles (3 SH)
- BIOT 5120 Foundations in Biotechnology (3 SH)
- BIOT 5401 Scientific Communication (3 SH)
- EESC 6500: Pathways to Professional Success (1 SH) or 1 credit graduate elective from BIOT approved elective list

One of the following courses

- BIOL 5583 Immunology (4 SH)
- BIOL 5543 Stem Cells and Regeneration (4 SH)
- BIOL 5597 Immunotherapies of Cancer and Infectious Disease (4 SH)
- BIOL 5549 Inventions in Microbial Biotechnology (4 SH)
- BIOL 5573 Medical Microbiology (4 SH)
- BIOL 5591 Advanced Genomics (4 SH)

One of the following courses (takes the place of a concentration elective in the graduate degree):

- For Biotech Operations and “No concentration” options:
 - BIOT 5330 Drug Safety and Immunogenicity (3 SH)
 - BIOT 5560 Bioprocess Fundamentals (3 SH)
- For Biopharm Tech/Analytics and “No concentration” options:
 - BIOT 5930 Vaccine Design (3 SH)
 - BIOT 5910 Vaccines and Immunization (3 SH)
 - BIOT 5700 Molecular Interactions (3 SH)
- For Agricultural Biotech, Biodefense and “No concentration” options:
 - BIOT 5810 Cutting Edge Applications (3 SH)

BS Biotechnology (CPS)

- BIOT 5120 Foundations in Biotechnology (3 SH)
- BIOT 5401 Scientific Communication (3 SH)
- BIOT 5219 The Biotech Enterprise (2 SH)
- BIOT 5621 Protein Principles in Biotechnology (3 SH)
- BIOT 5750 Molecular Approaches in Biotechnology (3 SH)
- BIOT 6214 Experimental Design and Biostatistics (2 SH)
- EESC 6500: Pathways to Professional Success (1 SH)

BS Chemistry

- BIOT 5750 Molecular Approaches in Biotechnology (3 SH)
- BIOT 5621 or CHEM 5620 Protein Principles (3 SH)
- BIOT 5120 Foundations in Biotechnology (3 SH)
- BIOT 5401 Scientific Communication (3 SH)
- BIOT 5219 The Biotech Enterprise (2 SH)
- BIOT 5630 Cell Culture Applications (2 SH)
- EESC 6500: Pathways to Professional Success (1 SH) or 1 credit graduate elective from BIOT approved elective list

BS Cell and Molecular Biology

- BIOL 4707 Cell & Molecular Biology (4 SH). This undergraduate course replaces the requirement but not the credits for the graduate courses BIOT 5750 (3 SH) and BIOT 5145 (1 SH).
- BIOT 5621 or CHEM 5620 Protein Principles (3 SH)
- BIOT 5120 Foundations in Biotechnology (3 SH)
- BIOT 5401 Scientific Communication (3 SH)
- BIOL 5591 Advanced Genomics (4 SH)
- EESC 6500: Pathways to Professional Success (1 SH) or 1 credit graduate elective from BIOT approved elective list

One of the following courses (takes the place of a concentration elective in the graduate degree):

- For Biotech Operations and “No concentration” options:
 - BIOT 5330 Drug Safety and Immunogenicity (3 SH)
 - BIOT 5560 Bioprocess Fundamentals (3 SH)
- For Biopharm Tech/Analytics and “No concentration” options:
 - BIOT 5930 Vaccine Design (3 SH)
 - BIOT 5910 Vaccines and Immunization (3 SH)
 - BIOT 5700 Molecular Interactions (3 SH)
- For Agricultural Biotech, Biodefense and “No concentration” options:
 - BIOT 5810 Cutting Edge Applications (3 SH)

REQUIRED COURSES TO COMPLETE AS GRADUATE STUDENT

Once you complete the undergraduate degree you become a full-time graduate student, enrolling in the same courses (17 credits) as other second year graduate students in the MS in Biotechnology program. A minimum of 34 graduate credits are required to complete Master of Science degree.

Other Information

PlusOne students meet with the graduate co-op coordinator within one month of starting the program in order to plan the timing of the graduate co-op.