

# PlusOne Programs

# MS Bioinformatics

Northeastern University  
College of Science

## Eligibility

Students must be pursuing one of the following undergraduate degrees:

- BS Behavioral Neuroscience
- BS Biology
- BS Computer Science and Behavioral Neuroscience
- BS Computer Science
- BS Computer Science and Biology
- BS Data Science and Behavioral Neuroscience
- BS Data Science and Biology
- BS Biochemistry
- BS Biochemistry and Data Science
- BS Cell and Molecular Biology

**A minimum cumulative 3.000 GPA is required.**

## COURSE PREREQUISITES

### **BS Computer Science and Behavioral Neuroscience**

#### **BS Data Science and Behavioral Neuroscience**

Enrolled in or have completed:

- BIOL 2301/2302 Genetics and Molecular Biology
- CHEM 2311/2312 Organic Chemistry 1
- At least one Behavioral Neuroscience core course

### **BS Behavioral Neuroscience**

Enrolled in or have completed:

- BIOL 2301/2302 Genetics and Molecular Biology
- CHEM 2313/2314 Organic Chemistry 2
- At least one Behavioral Neuroscience core course

### **BS Computer Science**

Enrolled in or have completed:

- BIOL 2301/2302 Genetics and Molecular Biology

### **BS Biology**

#### **BS Biochemistry**

#### **BS Cell and Molecular Biology**

#### **BS Biochemistry and Data Science**

#### **BS Computer Science and Biology**

#### **BS Data Science and Biology**

Enrolled in or have completed:

- BIOL 2301/2302 Genetics and Molecular Biology
- BIOL 3611/3612 Biochemistry

## Curriculum Requirements

A maximum of 16 graduate credits completed as an undergraduate can be used toward the Master of Science degree.

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application  
requirements**



## REQUIRED COURSES TO COMPLETE AS AN UNDERGRADUATE STUDENT

### **BS Behavioral Neuroscience**

- BINF 6200 Bioinformatics Programming (4 SH) in place of Physics
- BINF 6310 Introduction to Computational Methods in Bioinformatics (4 SH) in place of one BNS advanced elective/core course
- BIOL 5595, BIOL 5601, or PT5410/11 double counts as a BNS advanced elective/core course and MS elective
- 5000+ level biology course (4 SH) double counts as a BNS advanced biology elective and MS elective

### **BS Computer Science and Behavioral Neuroscience**

#### **BS Data Science and Behavioral Neuroscience**

- BINF 6200 Bioinformatics Programming (4 SH) or BINF 6400 Genomics in Bioinformatics (4SH) in place of one integrative upper-division course
- BINF 6310 Introduction to Computational Methods in Bioinformatics (4 SH) in place of one integrative course
- Two 5000+ level electives (choice of BIOL5587, BIOL5595, BIOL5601, or PT5410/5411) double counts as BNS foundation/core courses and MS electives

### **BS Biochemistry**

- BINF 6200 Bioinformatics Programming (4 SH) in place of one general elective
- BINF 6310 Introduction to Computational Methods in Bioinformatics (4 SH) in place of one general elective
- BIOT 5621 Protein Principles in Biotechnology (3 SH) and BIOL 5100 Biology Colloquium (1 SH) in place of CHEM 5620 and double counts as MS electives
- BIOL 6301 Molecular Cell Biology (4 SH) in place of BIOL 4707 and double counts as MS elective

### **BS Biochemistry and Data Science**

- BINF 6200 Bioinformatics Programming (4 SH) or BINF 6400 Genomics in Bioinformatics (4SH) as integrative course
- BINF 6310 Introduction to Computational Methods in Bioinformatics (4 SH) as integrative course
- BIOT 5621 Protein Principles in Biotechnology (3 SH) and BIOL 5100 Biology Colloquium (1 SH) in place of CHEM 5620 and double counts as MS electives
- One DS or CS 5000+ level course listed under Khoury elective courses (4 SH) double counts as BS and MS elective

### **BS Biology**

- BINF 6200 Bioinformatics Programming (4 SH) in place of one general elective
- BINF 6310 Introduction to Computational Methods in Bioinformatics (4 SH) in place of one general elective
- Two BIOL/EEMB/ENVR 5000+ level courses double counts as intermediate/advanced biology electives and two MS electives

### **BS Cell and Molecular Biology**

- BINF 6200 Bioinformatics Programming (4 SH) in place of one general elective
- BINF 6310 Introduction to Computational Methods in Bioinformatics (4 SH) in place of one general elective
- BIOL 5591 Advanced Genomics (4 SH) double counts as BS molecular biology requirement and MS elective
- 5000+ level CMB elective course (4 SH) double counts as intermediate/advanced CMB elective and MS elective

## REQUIRED COURSES TO COMPLETE AS AN UNDERGRADUATE STUDENT CONT'D

### **BS Computer Science**

- BINF 6200 Bioinformatics Programming (4 SH) or BINF 6400 Genomics in Bioinformatics (4SH) in place of one general elective
- BINF 6310 Introduction to Computational Methods in Bioinformatics (4 SH) in place of one general elective
- Two 5000+ level courses listed under computer science elective courses or graduate equivalent double counts as two BS and MS electives

### **BS Computer Science and Biology**

- BINF 6200 Bioinformatics Programming (4 SH) or BINF 6400 Genomics in Bioinformatics (4SH) in place of intermediate/advanced biology elective
- BINF 6310 Introduction to Computational Methods in Bioinformatics (4 SH) as biology integrative course
- 5000+ level course listed under Khoury elective courses or graduate equivalent double counts as BS and MS elective
- 5000+ level course listed under Intermediate and advanced science courses double counts as BS and MS elective

### **BS Data Science and Biology**

- BINF 6200 Bioinformatics Programming (4 SH) or BINF 6400 Genomics in Bioinformatics (4SH) in place of intermediate/advanced biology elective
- BINF 6310 Introduction to Computational Methods in Bioinformatics (4 SH) as biology integrative course
- 5000+ level course listed under Khoury elective courses or graduate equivalent double counts as BS and MS elective
- 5000+ level BIOL elective double counts as BS and MS elective

## REQUIRED COURSES TO COMPLETE AS GRADUATE STUDENT

- MATH 7340 Statistics for Bioinformatics (4 SH)
- BIOL 6381 Ethics in Biological Research (2 SH) or NNMD 5310 Bioethics in the Age of Artificial Intelligence (1 SH)
- Three Graduate Electives (10-11 SH)
- EESC 6500: Pathways to Professional Success (1 SH)

BINF Courses are offered in Fall and Spring semesters only. Some graduate classes, research or thesis credits could be completed in the summer, depending on the availability of courses and individual student plans.

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.

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application  
requirements**

