

# Applied Mathematics, MS

New applications of mathematics are constantly being discovered, and established techniques are being applied in new ways and in emerging fields. Students have the option to participate in one of two tracks offered: data science or coursework. The track option allows students to be able to personalize their education with more in-depth knowledge of data science or other areas of interest. Northeastern's Master of Science in Applied Mathematics caters to students who are looking to enter or who are currently working in a variety of applied math careers, such as financial service and investment firms, data science and high-tech firms, computer information and software firms, and academic institutions and research institutes.

## Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

### Core Requirements

Code	Title	Hours
<b>Methods and Modeling</b>		
MATH 5131	Introduction to Mathematical Methods and Modeling	4
<b>Algebra and Analysis</b>		
Complete one of the following:		4
MATH 5101	Analysis 1: Functions of One Variable	
MATH 5110	Applied Linear Algebra and Matrix Analysis	
MATH 5111	Algebra 1	
MATH 7241	Probability 1	
<b>Statistics</b>		
Complete one of the following:		4
MATH 7243	Machine Learning and Statistical Learning Theory 1	
MATH 7342	Mathematical Statistics	
MATH 7343	Applied Statistics	

### Tracks

Complete one of the following two tracks:

- Data Science Track (p. )
- Coursework Track (p. )

#### DATA SCIENCE TRACK

Code	Title	Hours
<b>Data Science Courses</b>		
Complete two of the following:		8
CS 5800	Algorithms	
CS 6140	Machine Learning	
CS 6220	Data Mining Techniques	
DA 5020	Collecting, Storing, and Retrieving Data	
DA 5030	Introduction to Data Mining/Machine Learning	
DS 5220	Supervised Machine Learning and Learning Theory	
DS 5230	Unsupervised Machine Learning and Data Mining	
EECE 5644	Introduction to Machine Learning and Pattern Recognition	
MATH 7243	Machine Learning and Statistical Learning Theory 1	

Students may take other courses not on the list above from the Khoury College of Computer Sciences in consultation with their faculty advisor.

#### COURSEWORK TRACK

Code	Title	Hours
<b>Coursework</b>		
Complete 8 semester hours from any subject area. Courses outside of MATH may be chosen with faculty approval.		8

### Electives

Code	Title	Hours
Complete 12 semester hours in the following subject area:		12
MATH		

### Program Credit/GPA Requirements

32 total semester hours required

Minimum 3.000 GPA required