

APPLIED MATHEMATICS (M.S.)

For details about this program, including program description, admission requirements, and contact information, click here (<https://www.montclair.edu/graduate/programs-of-study/applied-mathematics-ms/>).

Program Requirements

Code	Title	Credits
Core Courses		
AMAT 530	Scientific and Numerical Computing I ^{1, 2}	3
AMAT 532	Applied Linear Algebra ^{1, 2}	3
AMAT 534	Data-Driven Modeling and Computation ^{1, 2}	3
AMAT 536	Applied Probability and Stochastic Processes ^{1, 2}	3
Elective Courses		
Complete 5 courses from the following:		15
AMAT 540	Scientific and Numerical Computing II ²	
AMAT 542	Methods of Applied Mathematics ²	
AMAT 544	Applied Differential Equations ²	
AMAT 546	Mathematical Biology ²	
AMAT 548	Nonlinear Dynamics ²	
AMAT 550	Mathematics of Investment and Risk Management	
AMAT 552	Stochastic Calculus for Finance	
AMAT 649	Independent Study ²	
AMAT 650	Seminar ²	
CHEM 540	Advanced Physical Chemistry	
CHEM 544	Chemical Thermodynamics and Electrochemistry	
CSIT 531	Robotics	
CSIT 574	Image Processing	
CSIT 598	Machine Learning	
EAES 530	Numerical Modeling of Earth Systems	
EAES 575	Environmental Economics	
MATH 521	Real Variables I	
MATH 522	Real Variables II	
MATH 525	Complex Variables I	
MATH 526	Complex Variables II	
MATH 562	General Relativity ²	
STAT 532	Fundamentals of Statistics	
STAT 534	Statistical Computing	
STAT 536	Statistical Theory	
STAT 537	Design and Analysis of Experiments	
STAT 538	Regression Methods	
Culminating Experience		
Select one of the following options:		3
AMAT 696	Internship	
AMAT 697	Capstone	
AMAT 698	Master's Thesis	
Submit the completed Thesis original and one copy to the Graduate Office. See Thesis Guidelines for details.		
Total Credits		30

¹ Students in the combined Mathematics Major (B.S.)/Applied Mathematics and Statistics (M.S.) program complete this course as part of the undergraduate degree program.

² Students in the combined Physics Major (B.S.)/Applied Mathematics (M.S.) program may complete 4 courses, with advisement, as part of the undergraduate degree program.