

# MATHEMATICS - MATHEMATICS EDUCATION CONCENTRATION (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/mathematics-ms-mathematics-education-concentration/>).

## Program Requirements

Code	Title	Credits
<b>Mathematics Education</b>		
MATH 513	Educational Technology for School Mathematics	3
Select one of the following:		3
MATH 570	Administration and Supervision of Mathematics	
MATH 571	Curriculum Construction in Mathematics	
MATH 572	Contemporary Teaching of Mathematics	
MATH 573	Mathematics Materials for Teachers of Mathematics	
Select one of the following:		3
MATH 574	Problem Analysis in Secondary Mathematics	
MATH 575	Special Topics in Mathematics Education	
MTHM 579	Applied Mathematics for the Middle Schools	
Select one of the following:		3
MATH 570	Administration and Supervision of Mathematics	
MATH 571	Curriculum Construction in Mathematics	
MATH 572	Contemporary Teaching of Mathematics	
MATH 573	Mathematics Materials for Teachers of Mathematics	
MATH 574	Problem Analysis in Secondary Mathematics	
MATH 575	Special Topics in Mathematics Education	
MTHM 579	Applied Mathematics for the Middle Schools	
<b>Electives</b>		
<i>Major Electives</i>		
Select 15 credits from the list (see below)		15
<i>Additional Electives</i>		
Select 6 credits from the Additional Electives list (see below)		6
<b>Comprehensive Examination</b>		
GRAD CMP	Comprehensive Examination	
In the term that you will sit for exam, register for the section which matches your major & advisor. Successfully pass exam.		
<b>Total Credits</b>		<b>33</b>

## Electives

Code	Title	Credits
<b>Algebra</b>		
MATH 518	Foundations of Abstract Algebra	3
MATH 531	Abstract Algebra I	3
MATH 532	Abstract Algebra II	3

MATH 535	Linear Algebra I	3
MATH 536	Linear Algebra II	3
<b>Analysis</b>		
MATH 515	Intermediate Analysis I	3
MATH 516	Intermediate Analysis II	3
MATH 521	Real Variables I	3
MATH 522	Real Variables II	3
MATH 525	Complex Variables I	3
MATH 526	Complex Variables II	3
<b>Applied Mathematics - Continuous</b>		
MATH 560	Numerical Analysis	3
MATH 564	Ordinary Differential Equations	3
MATH 566	Partial Differential Equations	3
MATH 568	Applied Mathematics: Continuous	3
<b>Applied Mathematics - Discrete</b>		
MATH 569	Applied Mathematics: Discrete	3
MATH 580	Combinatorial Mathematics	3
MATH 581	Graph Theory	3
MATH 584	Operations Research	3
<b>Statistics</b>		
MATH 540	Probability	3
STAT 534	Statistical Computing	3
STAT 537	Design and Analysis of Experiments	3
STAT 538	Regression Methods	3
STAT 536	Statistical Theory	3
STAT 545	Practicum in Statistics I	3
STAT 546	Non-Parametric Statistics	3
STAT 549	Sampling Techniques	3
STAT 640	Biostatistics: Categorical Data Analysis	3
STAT 641	Biostatistics: Clinical Trials and Survival Analysis	3
STAT 642	Introduction to Stochastic Processes	3
STAT 645	Special Topics in Advanced Statistics	3
STAT 646	Multivariate Analysis	3
STAT 647	Practicum in Statistics II	3
STAT 648	Advanced Statistical Methods	3
STAT 649	Independent Study in Statistics	3
<b>Geometry</b>		
MATH 551	Topology	3
MATH 554	Projective Geometry	3
<b>Computer Science</b>		
CSIT 513	Systems Software Design	3
CSIT 517	Structured System Design and Analysis	3
CSIT 518	Fundamentals of Programming Languages	3
CSIT 532	Introduction to Artificial Intelligence	3
CSIT 546	Computer Simulation of Discrete Systems	3
CSIT 633	Neurocomputing	3

## Additional Electives

Code	Title	Credits
CSIT 517	Structured System Design and Analysis	3
CSIT 518	Fundamentals of Programming Languages	3
CSIT 532	Introduction to Artificial Intelligence	3

CSIT 546	Computer Simulation of Discrete Systems	3
CSIT 633	Neurocomputing	3
MATH 521	Real Variables I	3
MATH 522	Real Variables II	3
MATH 525	Complex Variables I	3
MATH 526	Complex Variables II	3
MATH 530	Mathematical Computing	3
MATH 531	Abstract Algebra I	3
MATH 532	Abstract Algebra II	3
MATH 535	Linear Algebra I	3
MATH 536	Linear Algebra II	3
MATH 540	Probability	3
MATH 551	Topology	3
MATH 554	Projective Geometry	3
MATH 560	Numerical Analysis	3
MATH 564	Ordinary Differential Equations	3
MATH 566	Partial Differential Equations	3
MATH 568	Applied Mathematics: Continuous	3
MATH 569	Applied Mathematics: Discrete	3
MATH 570	Administration and Supervision of Mathematics	3
MATH 571	Curriculum Construction in Mathematics	3
MATH 572	Contemporary Teaching of Mathematics	3
MATH 573	Mathematics Materials for Teachers of Mathematics	3
MATH 574	Problem Analysis in Secondary Mathematics	3
MATH 575	Special Topics in Mathematics Education	3
MATH 576	Research Seminar in Mathematics Education	3
MATH 580	Combinatorial Mathematics	3
MATH 581	Graph Theory	3
MATH 584	Operations Research	3
MATH 585	Fundamentals of Scientific Computing	3
MATH 586	Fundamentals of Mathematical Models	3
MATH 587	Fundamentals of Optimization	3
MATH 588	Professional Science Master Mini-Projects	6
MATH 590	Special Topics in Advanced Mathematics	3
MATH 591	Applied Industrial Mathematics	3
MATH 595	Seminar	1-4
MTHM 577	Mathematics Education in the Elementary School	3
MTHM 579	Applied Mathematics for the Middle Schools	3
STAT 532	Fundamentals of Statistics	3
STAT 534	Statistical Computing	3
STAT 536	Statistical Theory	3
STAT 537	Design and Analysis of Experiments	3
STAT 538	Regression Methods	3
STAT 543	Special Topics in Statistical Theory	3
STAT 545	Practicum in Statistics I	3
STAT 546	Non-Parametric Statistics	3
STAT 549	Sampling Techniques	3