MATHEMATICS (B.S.) (COMBINED B.S./M.A.T. TEACHING WITH TEACHER CERTIFICATION IN MATHEMATICS (PRESCHOOL-GRADE 12) AND TEACHER OF STUDENTS WITH DISABILITIES)

A Combined Degree program enables undergraduate students to enroll in graduate courses in their senior year, which can be counted towards the completion of both their Bachelor's and Master's degree requirements. The ability to take these "swing courses" allows students to earn both their Bachelor's and Master's degrees in a shortened period of time, typically within five years. Undergraduate students interested in this option can find more information regarding program requirements on the University's Combined Programs website (https://www.montclair.edu/combined-programs/programs-of-study/).

The Combined Degree with Dual Certification program is a 5-year program that leads to teacher certification in Mathematics (grades P-12), teacher certification in Teacher of Students with Disabilities, a baccalaureate degree and a master's degree. Interested students must apply to and be admitted to the Teacher Education Program as an undergraduate. Students must successfully complete the undergraduate portion of the program in order to be admitted to the Graduate School and complete the one-year master's portion of the program.

Please visit the Teacher Education Program website (https://www.montclair.edu/center-of-pedagogy/) for the required undergraduate professional sequence of courses, overall course outline, and other important Program requirements, guidelines, and procedures. Students also are strongly advised to review the Teacher Education Program Handbook.

120 credits of coursework is required for the baccalaureate degree with a minimum 3.0 overall GPA. Major GPA requirements differ depending on field of study. Consult the Teacher Education Program Handbook for more information.

Teacher Education Sequence

To be eligible for admission to the Teacher Education Program, a student must have a minimum 2.75 GPA in math major and collateral courses and have successfully completed 11 credits or more of math major courses. In addition, in order to remain in the Teacher Education Program students must maintain a 3.0 overall GPA and 2.75 GPA in the major.

Degree Requirements Overview

Code	Title	Credits
New Student Seminar		1
SEEDS: General Education Requirements		18-21
Major Requirements		51
Teacher Education Program Requirements (including Graduate Swing courses)		36
Free Electives		14-11
Total Credits		**120**

Major Requirements

Requirements for the graduate portion of this combined program can be found here. (http://catalog.montclair.edu/programs/teaching-certification-p12-students-disabilities-combined-bx-mat/)

Code	Title	Credits
Required Mathematics Courses		
MATH 122	Calculus I	4
MATH 221	Calculus II	4
MATH 222	Calculus III	4
MATH 225	Linear Algebra	4
MATH 340	Probability	3
Mathematics Specialization		
MATH 271	Special Topics in Modern Mathematics	3
MATH 320	Transitions to Advanced Mathematics	3
MATH 350	College Geometry	3
MATH 370	Mathematics for Teaching	3
MATH 375	History of Mathematics	3
MATH 431	Foundations of Modern Algebra	3
STAT 330	Fundamentals of Modern Statistics I	4
Mathematics Teacher Education Electives		
Select a minimum 3 credits from the list (see below)		3
Mathematics Collateral Requirement		
CSIT 111	Fundamentals of Java Programming	3
PHYS 191	University Physics I	4
Total Credits		**51**

Mathematics Teacher Education Electives

Code	Title	Credits
AMAT 262	Mathematics of Finance I	3
MATH 323	Complex Variables	3
MATH 325	Ordinary Differential Equation	4
AMAT 362	Mathematics of Finance II	3
MATH 364	Operations Research I	3
MATH 369	Mathematical Modeling	3
MATH 398	Vector Calculus	3
MATH 421	Partial Differential Equations	3
MATH 425	Advanced Calculus I	3
MATH 426	Advanced Calculus II	3
MATH 433	Theory of Numbers	3
MATH 450	Foundations of Geometry	3
MATH 451	Topology	3
MATH 460	Introduction to Applied Mathematics	3
MATH 463	Numerical Analysis	3
MATH 465	Operations Research II	3
MATH 485	Applied Combinatorics and Graph Theory	3
MATH 487	Introduction to Mathematical Cryptography	3
MATH 490	Honors Seminar	3

MATH 495	Special Topics in Advanced Undergraduate Mathematics	1-3
MATH 497	Mathematics Research I	1-3
MATH 498	Mathematics Research II	1-3
PHYS 368	Fluid Mechanics	3
STAT 341	Statistical Computing	3
STAT 442	Fundamentals of Modern Statistics II	3
STAT 443	Theory of Statistics	3
STAT 481	Introduction to Statistical Data Mining	3
STAT 487	Statistical Genomics	3
STAT 495	Special Topics in Statistical Science	3
STAT 497	Statistical Science Research I	1-3

Teacher Education Program Requirements

Teacher Education Program Requirements for Combined Degree Programs with Subject Area P-12 and Teacher of Students with Disabilities Certifications (http://catalog.montclair.edu/programs/combined-bx-mat-teacher-education-program-requirements-p12-tsd/)

New Student Seminar

Code	Title	Credits
Students in the Adult Learner program must take GNED 100.		
Complete one course from the following. Some courses may be restricted by major. Consult with an academic advisor.		1
ADVS 198	Pathways to Success	
CHEM 190	Freshman Seminar in Chemistry	
FYS 100	First Year Seminar	
GNED 100	Adult Academic Success Seminar	
GNED 199	New Student Seminar	
HPEM 199	Freshman Seminar in Health and Physical Education	
IDS 155	Pathways to Adult Learning	
JUST 199	New Student Seminar	
MATH 102	New Student Experience for Mathematical Sciences	
MUGN 199	Freshman Seminar for Music Majors	
NURS 199	Introduction to Nursing	
POLS 199	Freshman Seminar in Political Science and Law	

SEEDS General Education Requirements

Click here for a list of courses that fulfill the SEEDS requirements. (http://catalog.montclair.edu/programs/seeds-general-education-requirements/)

Code	Title	Credits
Foundations		
Effective Writing I		
Complete one Effective Writing I course.		3
Effective Writing II		
Complete one Effective Writing II course.		3
Interactive Communication		
Complete one Interactive Communication course.		3
Quantitative Reasoning		
Fulfilled by MATH 122 in the major.		
Political and Civic Life		
Fulfilled by SASE 210 in the Teacher Education requirements.		
World Language		
Complete two sequential classes in one World Language when starting at the Beginner I or Beginner II level. Complete one class when starting at the Intermediate/Advanced Level.		3-6
Exploration		
Complete one course from four different Exploration categories:		6
Analyzing Cultures and Societies		
Creative Expression		
Ethical Inquiry		
Historical Thinking		
Fulfilled by MATH 375 in the major.		
Literary and Artistic Analysis		
Scientific Reasoning		
Fulfilled by PHYS 191 in the major.		
Total Credits		**18-21**