

MATHEMATICS MAJOR (B.S.) (COMBINED B.S./M.S. IN MATHEMATICS)

Program Requirements

Students must complete General Education requirements (<http://catalog.montclair.edu/undergraduate-graduate-degree-requirements/general-ed-ba-bs/>) and World Languages and Cultures Requirements (<http://catalog.montclair.edu/undergraduate-graduate-degree-requirements/world-languages-cultures-requirement/>).

Requirements for the graduate portion of this dual degree program can be found here (<http://catalog.montclair.edu/programs/mathematics-graduate-combined-bs-ms/>).

Code	Title	Credits
Mathematics Core		
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 320	Transitions to Advanced Mathematics	3
MATH 425	Advanced Calculus I	3
MATH 431	Foundations of Modern Algebra	3
Mathematics Electives		
Complete 15 semester hours from the list below.		15
Collateral Requirements		
PHYS 191	University Physics I	4
PHYS 192	University Physics II	4
CSIT 111	Fundamentals of Programming I	3
Graduate Courses		
These courses will also count toward the graduate portion of this dual degree program.		
MATH 521	Real Variables I	3
MATH 531	Abstract Algebra I	3
MATH 535	Linear Algebra I	3
MATH 540	Probability	3
Total Credits		66

Major Electives

Code	Title	Credits
MATH 323	Complex Variables	3
MATH 325	Ordinary Differential Equation	4
MATH 360	Mathematical Modeling in Biology	3
MATH 364	Operations Research I	3
MATH 365	Mathematics and Music	3
MATH 368	Fluid Mechanics	3
MATH 369	Mathematical Modeling	3
MATH 370	Mathematics for Teaching	3
MATH 398	Vector Calculus	3

MATH 401	Fundamentals of Pre-Service Mathematics	1
MATH 421	Partial Differential Equations	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 461	General Relativity	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 491	Research in Mathematics Education	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