

MATHEMATICS-PHYSICS MAJOR – B.A.

The mathematics-physics major provides an option for students who want to concentrate on both areas equally rather than majoring in one or the other. The student can move easily to either mathematics or physics at any time up to the middle of the junior year.

Policy on prerequisites: A grade of C- or better is required for a course in mathematics to fulfill a prerequisite for another mathematics course. A student must receive the permission of the mathematics department to take a mathematics course that is a prerequisite for a mathematics course for which he or she has previously received credit.

Summary

Code	Title	Credits
	Mathematics-Physics B.A. Major Requirements	66-68.5
	Integrative Core Curriculum Requirements ¹	29-41
	Electives	10.5-25
Total Credits		120

¹ See Integrative Core Curriculum requirements, with information about the H&S CLA requirement. (<https://catalog.ithaca.edu/undergrad/schools/school-humanities-sciences/#integrativecorecurriculumicctext>)

Degree Requirements

An overall average of C (2.00) or above is required in mathematics and physics courses being used to fulfill the minimum course requirements for the major.

Code	Title	Credits
REQUIRED MATHEMATICS COURSES		
MATH 11100	Calculus I	4
MATH 11200	Calculus II	4
MATH 19100	World of Mathematics	1
MATH 21100	Calculus III	4
MATH 21200	Calculus IV	3
MATH 21400	Differential Equations	3
	or MATH 21600Statistical Analysis	
MATH 23100	Linear Algebra	3
MATH 27000	Mathematical Reasoning with Discrete Mathematics	3
MATH 30300	Abstract Algebra	4
	or MATH 30500Introduction to Analysis	
MATH xxxxx	One course at level 3 or above (excluding MATH 39100)	3-4
REQUIRED PHYSICS COURSES		
PHYS 11700	Principles of Physics I: Mechanics	4
PHYS 11800	Principles of Physics II: Electricity and Magnetism	4
PHYS 12000	Introductory Applied Physics Laboratory	3
PHYS 21700	Principles of Physics III: Waves, Optics and Thermodynamics	4

PHYS 21800	Principles of Physics IV: Modern Physics	4
PHYS 22500	DC and AC Circuits	3
PHYS 30100	Mathematical Methods of Physics	3
PHYS 30500	Electromagnetism	3
PHYS 31100	Classical Mechanics	3
CAPSTONE		
Select one of the following options:		3-4.5
OPTION 1		
MATH 49800	Capstone in Mathematics I	
MATH 49900	Capstone in Mathematics II	
OPTION 2		
PHYS 39800	Senior Thesis Proposal	
PHYS 49700	Senior Thesis I	
PHYS 49800	Senior Thesis II	
PHYS 499xx	Advanced Physics Research	
Total Credits		66-68.5