

PHYSICS MAJOR – B.S.

The B.S. in physics provides a rigorous course of study in physics for the student as a preparation for graduate study or highly technical jobs in industry.

Summary

Code	Title	Credits
	Physics B.S. Major Requirements	65
	Integrative Core Curriculum Requirements ¹	29-41
	Electives	14-26
	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

Code	Title	Credits
CORE COURSES IN THE DEPARTMENT		
PHYS 11001	Mathematical and Computational Skills for Physics	1
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 21400	Professional Physics and Astronomy Seminar II	1
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 31400	Professional Physics and Astronomy Seminar III	1
PHYS 36000	Advanced Physics Laboratory	3
PHYS 299XX, 399XX, or 499XX	Introductory, Intermediate, or Advanced Physics Research	1.5
ADVANCED COURSEWORK		
Advanced coursework tailored to the students' professional interests. The coursework must be carefully planned with the student's adviser before the end of the student's fourth semester.		
Select two of the following:		6
PHYS 30500	Electromagnetism	
PHYS 31100	Classical Mechanics	
PHYS 32000	Thermodynamics	
PHYS 42100	Quantum Mechanics	
Advanced courses in physics or astronomy: Six credits in physics or astronomy at the 300-level or above		6
PHYSICS CAPSTONE		
PHYS 39800	Senior Thesis Proposal	1

PHYS 49700	Senior Thesis I	1
PHYS 499XX	Advanced Physics Research	1.5
PHYS 49800	Senior Thesis II	1
COMPUTATIONAL AND MATHEMATICS SKILLS		
COMP 17100	Principles of Computing Science I	4
MATH 11100	Calculus I	4
MATH 11200	Calculus II	4
MATH 21100	Calculus III	4
Total Credits		65