

APPLIED PHYSICS MAJOR – B.S.

This B.S. degree requires 60 liberal arts credits out of the 120 credits required for graduation.

Summary

Code	Title	Credits
Applied Physics B.S. Major Requirements		69-70
Integrative Core Curriculum Requirements and Electives ¹		50-51
Total Credits		120

¹ This major is approved to fulfill the Integrative Core Curriculum (<https://catalog.ithaca.edu/undergrad/programsaz/integrative-core-curriculum/>) requirement for the Natural Sciences perspective.

Degree Requirements

Code	Title	Credits
CORE COURSES IN APPLIED PHYSICS		
PHYS 11000	Introductory Mathematical and Computational Methods for Physics	2
PHYS 12100	Light and Special Relativity	4
PHYS 12200	Momentum, Energy, and Heat	4
PHYS 12300	Classical Fields: Gravity, Electricity, & Magnetism	4
PHYS 21000	Intermediate Mathematical and Computational Methods for Physics	2
PHYS 22400	Classical and Quantum Waves	4
PHYS 25000	Intermediate Applied Physics Design Laboratory	2
PHYS 27800	Professional Physics and Astronomy Seminar II	1
PHYS 35000	Advanced Applied Physics Design Laboratory	4
PHYS 299xx or 399xx	Introductory or Intermediate Physics Research	1
PHYS 499xx	Advanced Physics Research	2
ADVANCED COURSEWORK AND APPLIED FIELD		
Advanced coursework in physics and applied field 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:		8
PHYS 32200	Classical Mechanics	
PHYS 32300	Electromagnetism	
PHYS 32400	Quantum Mechanics	
PHYS 32500	Thermal Physics	
PHYS 43000	Selected Topics in Advanced Physics	
Coursework in applied field: 12 credits in a single subject code (excluding PHYS or ASTR) ¹		12
COMPUTATIONAL AND MATHEMATICAL SKILLS		
MATH 10800	Applied Calculus	4
or MATH 11100 Calculus I		

MATH 11200	Calculus II	4
MATH 21100	Calculus III	4
COMP 17100	Principles of Computing Science I	4
PROFESSIONAL DEVELOPMENT		3-4
Select one course from the following list:		
CMST 11500	Business and Professional Communication	
CMST 14000	Small Group Communication	
LGST 10100	Foundations in Law and Justice	
MGMT 11100	Introduction to Business	
MGMT 20600	Organizational Behavior and Ethics	
MGMT 21400	Startup Tactics: From Accounting to Zoning, Tactical Considerations When Starting a New Company	
WRTG 21100	Writing for the Workplace	
WRTG 21300	Technical Writing	
WRTG 31400	Science Writing	
Total Credits		69-70

¹ Applied Field may be any field of interest. Common fields include: secondary education, premedical training or biology, electronics, chemistry, materials science, environmental science, computer science, art, or music.