

PHYSICS MAJOR FOR THE HIGH SCHOOL TEACHING LICENSE (9-12) / BACHELOR OF ARTS

Total Credit Hours: 120

Major Credit Hours: 66

The Department of Physics features a fully approved Physics program that prepares candidates to teach grades 9-12 in Illinois public and private schools. The program is approved by the State Educator Preparation and Licensure Board in conjunction with the Illinois State Board of Education and includes all the requirements for a major in Physics. Physics majors must declare majors in both Physics and Secondary Education. See advisors in the Department of Physics and the Department of Education for specific approval and a list of required courses.

Teacher Candidates seeking a Professional Educator License with a Physics Endorsement must complete all requirements of the Department of Education and the following coursework in the content area as well as professional education courses. For a detailed description of the courses, please click on the appropriate link. Only grades of "C" and above are acceptable in professional education courses and in any courses counted toward any endorsement or license. A "C-" or lower grade will require that the course be repeated.

Requirements

Degree Requirements

A grade of "C-" or better must be earned in a prerequisite course in order to advance to the next course in the sequence. An overall GPA of 2.0 must be earned in the major in order for a student to graduate with a B.A. in Physics.

Physics majors and minors may take a Physics class only two times. If a student has not achieved a minimum of a "C-" after the second attempt, the student may not repeat the class.

I. Courses in Physics Major for Teacher Licensure (66)

Code	Title	Hours
Core Courses		
CHEM 11000	General Chemistry 1	4
CHEM 11100	General Chemistry 1 Lab	1
CHEM 11500	General Chemistry 2	4
CHEM 11600	General Chemistry 2 Lab	1
MATH 20900	Calculus 1	4
MATH 23500	Calculus 2	4
MATH 25000	Calculus 3	4
MATH 30000	Differential Equations	3
PHYS 10500	Introduction to Astronomy	3
PHYS 21000	General Physics 1	3
PHYS 21100	General Physics 1 Lab	1
PHYS 21500	General Physics 2	3
PHYS 21600	General Physics 2 Lab	1

PHYS 21800	General Physics 3	3
PHYS 21900	General Physics 3 Lab	1
PHYS 29600	Research Methods Seminar	1
PHYS 30000	Mechanics	4
PHYS 34100	Modern Physics	3
PHYS 36500	Intermediate Physics Laboratory	3
PHYS 46500	Capstone Project	1
PHYS 49600	Physics Seminar	1
PHYS 31000	Electricity and Magnetism	4
	or PHYS 31100 Analog and Digital Electronics	

Select one of the following Biology courses/sequences: 3-4

BIOL 10600	Introduction to Environmental Science	
BIOL 10800	Introduction to Human Biology	
BIOL 12200	Integrated Science 2	
& BIOL 12300	and Integrated Science 2 Lab	
CPSC 20000	Introduction to Computer Science	3
	or CPSC 31500 Scientific Computing	

Select two to three additional credit hours from the following courses 2-3 to total at least 66 credit hours for the major:

BIOL 10600	Introduction to Environmental Science	
BIOL 10700	Human Heredity	
BIOL 10800	Introduction to Human Biology	
MATH 22000	Applied Probability and Statistics	
MATH 30500	Linear Algebra	
MATH 36500	Mathematical Modeling	
PHYS 10800	Energy and Society	
PHYS 30600	Mathematical Methods for the Physical Sciences	
PHYS 31100	Analog and Digital Electronics	
PHYS 31800	Optics	
PHYS 34200	Applied Modern Physics: Atoms, Molecules, and Condensed Matter	
PHYS 34300	Applied Modern Physics: Nuclear and Particle Physics	
PHYS 40100	Computational Mechanics	
PHYS 41100	Computational Electrodynamics	
PHYS 44100	Quantum Mechanics	
PHYS 47000	Undergraduate Research	
PHYS-498XX	Special Topics in Physics	

Mathematics minors cannot use any 30000 or 40000 level Mathematics course to satisfy both this requirement and a Mathematics minor requirement.

II. Professional Educator License

Secondary education majors must complete the professional educator program of study in their subject area. See content area for Secondary Licensure content requirements.

Advanced Writing Requirement

The Advanced Writing Requirement of the General Education Curriculum is satisfied by successful completion of PHYS 49600 Physics Seminar.