PHYSICS MAJOR (B.A.)

https://ceps.unh.edu/physics/program/ba/physics-major

Description

This program provides an opportunity for a broad and liberal education, which in some cases may be sufficient for graduate work. This program can also be excellent preparation for middle and high school physics teachers, pre-med and pre-law students, and those wishing to pursue a technical career in industry. Because there are fewer required courses than for a B.S., you have time to pursue other academic interests. A judicious choice of electives may also prepare students for interdisciplinary programs that require proficiency in a specialized area of physics.

Requirements

Code	Title	Credits
University Discovery Program requirements [1]		
Bachelor of Arts Degree requirements		
PHYS 400	Freshman Seminar	1
PHYS 407	General Physics I	4
PHYS 408	General Physics II	4
PHYS 505 & PHYS 506	General Physics III and General Physics III Laboratory	4
PHYS 508	Thermodynamics and Statistical Mechanics	4
PHYS 605	Experimental Physics I	5
PHYS 615	Classical Mechanics and Mathematical Physics I	4
PHYS 616	Classical Mechanics and Mathematical Physics II	4
PHYS 701	Quantum Mechanics I	4
PHYS 703	Electricity and Magnetism I	4
PHYS 705	Experimental Physics II	4
Capstone: [2]		
PHYS 795 & PHYS 799 or PHYS 798	Independent Study and Thesis Senior Project	

1 Note that no physics course can satisfy these requirement for a physics major. The rationale behind this is that a course in physics does not broaden the education of a physics major.

2 A capstone experience is required of all physics majors during their senior year. The Physics Department encourages students to write a senior thesis (PHYS 799 Thesis) for their capstone experience. Other options include independent study research projects (PHYS 795 Independent Study or INCO 590 Student Research Experience) or a special project as part of senior lab (PHYS 705 Experimental Physics II). All capstone experiences must be approved by the undergraduate committee during the student's penultimate semester.

Note that MATH 425 Calculus I, MATH 426 Calculus II, and MATH 525 Linearity I, MATH 526 Linearity II or MATH 527 Differential Equations with Linear Algebra, MATH 528 Multidimensional Calculus are prerequisites for some of the courses.

Degree Plan

Suggested Curriculum for B.A. in Physics

In the following table, "electives" include Discovery courses, writing-intensive courses, language courses required for the B.A., and free-choice electives.

Course	Title	Credits
First Year		
Fall		
PHYS 400	Freshman Seminar	1
PHYS 407	General Physics I	4
MATH 425	Calculus I	4
Elective		8
	Credits	17
Spring		
PHYS 408	General Physics II	4
MATH 426	Calculus II	4
ENGL 401	First-Year Writing	4
Elective		4
	Credits	16
Second Year		
Fall		
PHYS 505 & PHYS 506	General Physics III and General Physics III Laboratory	4
MATH 525 or MATH 527	Linearity I or Differential Equations with Linear Algebra	4-6
Elective		8
	Credits	16-18
Spring		
PHYS 615	Classical Mechanics and Mathematical Physics I	4
MATH 526 or MATH 528	Linearity II or Multidimensional Calculus	4-6
Elective		8
	Credits	16-18
Third Year		
Fall		
PHYS 616	Classical Mechanics and Mathematical Physics II	4
PHYS 701	Quantum Mechanics I	4
Electives		8
	Credits	16
Spring		
PHYS 703	Electricity and Magnetism I	4
PHYS 605	Experimental Physics I	5
Electives		8
	Credits	17
Fourth Year		
Fall		
PHYS 705	Experimental Physics II	4

PHYS 508	Thermodynamics and Statistical Mechanics	4
Elective		8
	Credits	16
Spring		
Elective		16
	Credits	16
	Total Credits	130-134