

BA IN PHYSICS

The B.A. in Physics requires a minimum of 120 hours of coursework and provides a strong background in basic physics while also allowing flexibility for students to customize their undergraduate education.

The B.A. degree in physics a minimum of 34 hours of required physics or astronomy courses in the Department of Physics and Astronomy, 15 hours of mathematics, and at least 9 additional hours in the natural sciences and mathematics, chosen with the Advisor's approval are required.

Recommended Introductory Course

PHYS 1910 Frontiers Of Physics And Astronomy (strongly recommended)

The following courses are required:

Basic Physics Sequence: either (PHYS 2130 & PHYS 2140) or (PHYS 2070 & PHYS 2080 & PHYS 2100)

PHYS 3180 Intermediate Laboratory

PHYS 3310 Modern Physics I

PHYS 4920 Senior Capstone Project

PHYS 4950 Undergraduate Professional Development Seminar

Select at least 16 hours of advanced physics or astronomy courses numbered above 3000

The following related courses in Mathematics are also required: Calculus I and II: either (MATH 1830 & MATH 1840) or (MATH 1850 & MATH 1860)

MATH 2850 Elementary Multivariable Calculus

MATH 3610 Statistical Methods I

Other courses in related science areas: At least 9 additional hours of approved electives, of which at least two courses must be major-level chosen from at least two of the departments: in biology, chemistry, or environmental sciences, approved by the student's academic advisor.

This program is intended to provide the flexibility required by students who wish to pursue interdisciplinary studies, or prepare for careers in teaching or other professions requiring a fundamental understanding of the physical sciences.

Below is a sample plan of study. Consult your degree audit for your program requirements.

	Hours
First Term	
NSM 1000 Natural Sciences & Mathematics	2
ENGL 1110 College Composition I	3
PHYS 1910 Frontiers Of Physics And Astronomy (Or electives to reach 120 hours)	3
Select one of the following:	4
MATH 1830 Calculus I For Mathematicians, Scientists And Educators	
MATH 1850 Single Variable Calculus I	
Arts/Humanities Core	3
Hours	15

Second Term

PHYS 2130 Physics For Science And Engineering Majors I ¹	5
Select one of the following:	4
MATH 1840 Calculus II For Mathematicians, Scientists And Educators	
MATH 1860 Single Variable Calculus II	
Select one of the following:	3
ENGL 1130 College Composition II: Academic Disciplines And Discourse	
ENGL 2950 Science And Technical Report Writing	
ENGL 2960 Professional and Business Writing	
Social Science Core	3
Hours	15

Third Term

MATH 2850 Elementary Multivariable Calculus	4
Arts/Humanities Core	3
MATH 3610 Statistical Methods I	3
PHYS 2140 Physics For Science And Engineering Majors II ¹	5
Hours	15

Fourth Term

PHYS 3180 Intermediate Laboratory	3
Select one of the following:	3-4
BIOL 2150 to BIOL 4xxx	
CHEM 1230 to CHEM 4xxx	
EEES 2010 to EEES 4xxx	
Social Sciences Core	3
Arts/Humanities Core	3
Arts/Humanities Core (Fine Arts)	3
Hours	15-16

Fifth Term

PHYS 3310 Modern Physics I (WAC)	3
PHYS 3000-4000 Level Electives	3
Social Sciences Core	3
Elementary Foreign Language I	4
Arts/Humanities Core (History)	3
Hours	16

Sixth Term

PHYS 3000-4000 Level Electives	4
Select one of the following:	3-4
BIOL 2150 to BIOL 4xxx	
CHEM 1230 to CHEM 4xxx	
EEES 2010 to EEES 4xxx	
Elective	3
Elementary Foreign Language II	4
Hours	14-15

Seventh Term

PHYS 4950 Undergraduate Professional Development Seminar	1
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PHYS 3000-4000 Level Electives	3
ENGL 2710-2800 Arts/Humanities Core (English Lit)	3
Elective(s) > 3000-level	4
Diversity of US	3
Hours	14
Eighth Term	
PHYS 4920 Senior Capstone Project	1
PHYS 3000-4000 Level Electives	6
Non-US Diversity	3
Writing Across the Curriculum (WAC)	3
Elective	3
Hours	16
Total Hours	120-122

¹ PHYS 2070, PHYS 2080 & PHYS 2100 may be substituted for PHYS 2130 and PHYS 2140 with advisors permission.

Our students must be able to analyze and solve (using the appropriate mathematical techniques) any undergraduate problem from the core areas of physics (Newtonian mechanics, electromagnetism, thermal physics and quantum theory) as well as the area of their concentration.

Our students must be able to perform experiments, in a modern laboratory setting, to measure physical properties of interest. Our students must also be able to analyze these experiments in order to interpret their observations, including an estimation of the uncertainties associated with their measurements.

Our students must be able to discuss and explain scientific information in both written and oral formats.