

PHYSICS MAJOR: ASTRONOMY OPTION (B.S.)

<https://physics.unh.edu/content/bs-option-astronomy>

Description

The astronomy option prepares students for professional work as a physicist or astrophysicist, and is the first step towards graduate work in astronomy or physics. It takes full advantage of the wide range of research that UNH has to offer in astrophysics and space science.

Requirements

University Discovery requirements ¹

Bachelor of Science requirements

Physics requirements:

PHYS 400	Freshman Seminar	1
PHYS 406	Introduction to Modern Astronomy	4
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 702	Quantum Mechanics II	4
PHYS 703	Electricity and Magnetism I	4
PHYS 704	Electricity and Magnetism II	4
PHYS 705	Experimental Physics II	4
PHYS 710	Modern Astrophysics	4

Capstone:

PHYS 795	Independent Study	4
PHYS 799	Thesis	4

Chemistry:

CHEM 403	General Chemistry I	4
or CHEM 405	Chemical Principles for Engineers	

Mathematics:

MATH 425 & MATH 426	Calculus I and Calculus II	8
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Select one of the following options: ² 12

Option A:

MATH 525	Linearity I
MATH 526	Linearity II

Option B:

MATH 528	Multidimensional Calculus
MATH 527	Differential Equations with Linear Algebra
MATH 545	Introduction to Linear Algebra
or MATH 645	Linear Algebra for Applications

Computer Programming:

CS 410P or IAM 550	Introduction to Scientific Programming/Python Introduction to Engineering Computing	4
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Electives in Option:

Select one of the following: 4

PHYS 708	Optics
PHYS 712	Space Plasma Physics
PHYS 720	Nuclear Physics
PHYS 764	General Relativity and Cosmology

- 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.
- The Department generally recommends MATH 645 Linear Algebra for Applications over MATH 545 Introduction to Linear Algebra for Physics majors, but the best option, when possible, is MATH 525 Linearity I-MATH 526 Linearity II.

By the end of the spring semester of the sophomore year, a student must have a minimum grade of C in each 400- or 500-level course specifically required for the B.S. degree and an overall grade-point average of at least 2.33 in these courses in order to continue in the B.S. program.