

# Astrophysics

AN INTERDEPARTMENTAL MAJOR

Director: *French (Astronomy)*

Advisory Committee: *Bauer (Astronomy), French (Astronomy), McLeod (Astronomy), Lannert (Physics), Stark (Physics)*

The Departments of Astronomy and Physics offer an interdepartmental major in astrophysics, which combines the physics major with a foundation of course work in astronomy. This major should be considered by students interested in graduate study in astronomy or astrophysics, and by those who would like a coordinated astronomy extension to the physics major.

## Goals for the Major

Upon completion of the astrophysics major, a student will be prepared for advanced study leading to a professional career in astronomy, astrophysics, or related physical sciences. Majors in astrophysics will have a broad understanding of the physical processes at work in a range of astronomical settings, from the solar system and the structure and evolution of stars to the realm of galaxies and the large-scale structure and evolution of the universe. They will understand the motions of the night sky, be familiar with modern observational techniques and computational tools, and have carried out a research project using our 24-inch telescope. They will have the problem solving and critical thinking skills necessary to interpret astronomical research, and the ability to communicate these results with clarity and precision, both orally and in writing.

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## ASPH 350 Research or Individual Study

Prerequisite: Open by permission to juniors and seniors.

Distribution: None

Semester: Fall, Spring

Unit: 1.0

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## ASPH 360 Senior Thesis Research

Prerequisite: By permission of director. See Academic Distinctions.

Distribution: None

Semester: Fall, Spring

Unit: 1.0

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## ASPH 370 Senior Thesis

Prerequisite: 360 and permission of department.

Distribution: None

Semester: Fall, Spring

Unit: 1.0

## Requirements for the Major

In addition to the nine courses required for the physics major, the student takes four astronomy courses. An astrophysics major consists of: PHYS 107, 108, 202, 203, 302, 305, 306, 314; PHYS 216; ASTR 101 or 108; 206; 311/PHYS 311; and either 301 or a 350 in either astronomy or astrophysics, or ASPH 370. PHYS 219 is strongly recommended. In planning the major, students should note that some of the courses have prerequisites in mathematics.

## Honors

To earn honors in Astrophysics, students must have a minimum grade point average of at least 3.5 in all work in the major field above the 100 level; the Advisory Committee may petition on her behalf if her GPA in the major is between 3.0 and 3.5. The student must complete a significant research project culminating in a paper and an oral examination. The project must be conducted after the junior year and approved in advance by the Astrophysics Advisory Committee, and might be satisfied by a thesis, a summer internship, or a 350. See Academic Distinctions.