

# Astronomy & Astrophysics Minor

Chair: Edward L. Fitzpatrick, Ph.D.  
Office Location: 456A Mendel Science Center  
Telephone: (610) 5019-4820  
[Website](#)

## About

The APS Department offers a major in Astronomy & Astrophysics, leading to a Bachelor of Science degree. The major combines rigorous academic preparation with a strong research component, which usually culminates in the presentation of original research results at national astronomical conferences. The program is designed to prepare students for graduate studies in astronomy and related fields. In addition, and due to the strong and balanced Liberal Arts education, the Astronomy & Astrophysics major provides outstanding preparation for careers in science journalism and science education, as well as for essentially any technically based career. The department also offers a minor in Astronomy & Astrophysics.

Research facilities utilized by staff and students in the APS Department include a high-speed computing facility and a suite of computer-controlled telescopes located on the roof of Mendel Science Center. In addition, the Department is a member of the Robotically Controlled Telescope consortium, which operates a 1.3 meter telescope located at Kitt Peak National Observatory. Students also have access, via faculty research programs, to state-of-the-art astronomical data from NASA-supported facilities such as the Hubble Space Telescope and the Spitzer Space Telescope, and a variety of national and international ground-based facilities.

**Program:** [Astrophysics and Planetary Science](#)  
**Type:** Minor

## MINOR: Astronomy & Astrophysics (25 credits)

A minor is open to all students and requires 9 courses and a minimum of 25 credits.

## Required Minor Courses

### *Program Notes:*

- Courses that fulfill minor requirements may be used to fulfill other requirements (i.e., primary major, core curriculum, minors, concentrations, or free electives).
- Students may fulfill the Calculus requirement (normally MAT 1500 and 1505) with any Calculus I & II courses offered within the University.

<b>Course</b>	<b>Title</b>	<b>Credits</b>
AST 2120	Sun and Stars	3
AST 2121	Solar System Astronomy	3
AST 2122	Understanding Our Universe	3
	MAT 1320 or MAT 1500	3
	MAT 1325 or MAT 1505	3
	Astrophysics PHY Electives	6
	Astrophysics Elective	6

## Category Descriptions

### MAT 1320 or MAT 1500

Credits: 3

<b>Course</b>	<b>Title</b>	<b>Credits</b>
MAT 1320	Calculus I for Liberal Arts	3
MAT 1500	Calculus I	4

### MAT 1325 or MAT 1505

Credits: 3

<b>Course</b>	<b>Title</b>	<b>Credits</b>
MAT 1325	Calculus II for Liberal Arts	3
MAT 1505	Calculus II	4

### Astrophysics PHY Electives

Credits: 6

Select one two-course sequence for six credits, or 2 Classes in PHY 2410 and higher.

<b>Course</b>	<b>Title</b>	<b>Credits</b>
PHY 1100	General Physics I	3
PHY 1102	General Physics II	3
<b>Course</b>	<b>Title</b>	<b>Credits</b>
PHY 2400	Physics I Mechanics	3
PHY 2402	Physics II Elec & Magnet	3

### Astrophysics Elective

Credits: 6

Choose two courses from the following list:

<b>Course</b>	<b>Title</b>	<b>Credits</b>
AST 2123	Astrodynamics:Kepler & Beyond	3
AST 3141	Galactic Astronomy	3
AST 3142	Intro to Astrophysics	3
AST 3143	Astrobiology, Planets, & Life	3
AST 3148	The Pncpl of Scientific Model	3