

# ASTRONOMY

Astronomy, the oldest of the sciences, originated in the human urge to understand the mysterious lights we see in the sky above us – the Sun, the Moon, the planets, and the stars. Over the centuries, new tools have become available to study these cosmic icons – telescopes that allow us to see further and fainter, detectors that are sensitive to electromagnetic signals at non-visible wavelengths, and satellites that can observe from outside the confines of the Earth's atmosphere. These tools have answered many questions, but raised even more. How did the Universe begin, and how did the stars and galaxies within it form? How will it end? Are there habitable planets around other stars – and has life emerged on these planets?

## CHOOSE TO BE AN ASTRONOMY-PHYSICS MAJOR

### WHY STUDY ASTRONOMY?

- Because it's fascinating: Astronomy speaks directly to our natural urge to better understand our place in the cosmos.
- Because it's challenging: Astronomy studies objects that are distant beyond simple conception.
- Because it's adaptable: Astronomy utilizes a broad set of transferable skills, from a foundation in logical and quantitative reasoning through to data analysis, programming, and visualization.

The UW–Madison Astronomy–Physics program builds on a foundation of classical and modern physics, to embark on a comprehensive study of the observable Universe at scales extending from planets and stars, through to galaxies and the cosmic web.

### A MAJOR IN ASTRONOMY-PHYSICS CAN...

- Prepare you for graduate studies for master's or doctoral degrees in experimental or theoretical Astronomy, Astrophysics or Physics.
- Prepare you for employment in industrial or governmental laboratories.
- Provide a broad background for further work in other sciences, such as materials sciences, aerospace, computer science, geophysics, meteorology, radiology, medicine, biophysics, engineering, and environmental studies.
- Provide a science-oriented liberal education. This training can be useful in some areas of business administration, public policy, law, or other fields where a basic knowledge of science is useful.
- Provide part of the preparation you need to teach Astronomy and Physics. To teach these subjects in high school, you will also take education courses to become certified. You will need a doctoral degree to become a college or university professor.

Students who intend to continue astronomy in a graduate program are strongly encouraged to get involved in research early. To learn about research opportunities in the department, please meet with faculty advisors. Please consider applying for Research Experiences for Undergraduates (REU's) and if interested in department research, visit our webpage (<https://www.astro.wisc.edu/undergraduate-program/current-students/>) and reach out to individual faculty. On our webpage you will find our Undergraduate Student Handbook as well as some of the current research projects.

## OTHER PROGRAMS PHYSICS

Students interested in the Physics major should contact the Physics Department (<http://guide.wisc.edu/undergraduate/letters-science/physics/>).

## EDUCATION-ASTRONOMY

A student working toward the Bachelor of Science–Education degree may major or minor in Astronomy–Physics. Interested students should contact the School of Education (<http://guide.wisc.edu/undergraduate/education/>).

## MEDICAL PHYSICS

A suggested curriculum for students interested in graduate study in medical physics is available on the medical physics webpage (<https://www.medphysics.wisc.edu/graduate-program/admissions/#requirements>).

## DEGREES/MAJORS/CERTIFICATES

### DEGREES/MAJORS/ CERTIFICATES

- Astronomy–Physics, BA (<http://guide.wisc.edu/undergraduate/letters-science/astronomy/astronomy-physics-ba/>)
- Astronomy–Physics, BS (<http://guide.wisc.edu/undergraduate/letters-science/astronomy/astronomy-physics-bs/>)

## PEOPLE

### PEOPLE FACULTY

Amy Barger (Chair)  
Thomas Beatty  
Juliette Becker  
Matt Bershady  
Elena D'Onghia  
Kate Grier  
Sebastian Heinz  
Alex Lazarian  
Michael Maseda  
Bob Mathieu  
Snezana Stanimirovic  
Zoe Todd  
Rich Townsend  
Christy Tremonti  
Susanna Widicus Weaver  
Eric Wilcots  
Ke Zhang  
Ellen Zweibel

### STAFF

Undergraduate Advisor: Evan Heintz  
Department Administrator: Steve Anderson  
Graduate Program Manager: Heather Sauer  
Research Administrator: Sophia Didier

Building Manager and Purchasing: Rick Williams

See preliminary and career advising (<https://www.astro.wisc.edu/undergraduate-program/current-students/#preliminary-and-career-advising>) for academic advising information.