

ASTRONOMY/PHYSICS

thematic activity

COLLEGE OF LIBERAL ARTS AND SCIENCES

Astronomy, the science of the stars, planets, galaxies, and black holes, is the world's oldest science. For centuries, it has fascinated scholars and scientists and anyone who has gazed upward and wondered, "are we alone?" Astronomy helps us to seek answers to questions such as "How did the universe begin?" and "How does Earth fit in?" In this set of courses you will explore galaxies, stars and planets. Prepare to sharpen your thinking skills and your knowledge of the history of the world.

ADVANTAGE UIS

- **Individually-tailored degrees.** Students at UIS may pursue an individualized degree that includes astronomy, physics, and mathematics through a Liberal Studies B.A. or an Individual Option M.A. These programs are designed to let students choose astronomy coursework toward completion of a degree that suits their individual needs.
- **Astronomical research.** Nobody just watches in our classes. Selected students participate in research projects such as studying the complex behavior of massive stars. They learn how to observe, how to record data, and identify clues about how stars evolve and fit into the bigger astronomical picture.
- **Be one of the experts.** The astronomy program at UIS provides information to the local and, occasionally, national media about upcoming events, including meteor showers, eclipses, and comets. In the past, the campus observatory has supplied live images of a solar eclipse to CNN, ABC, CBS, and NBC and real-time images to all schools in Illinois.

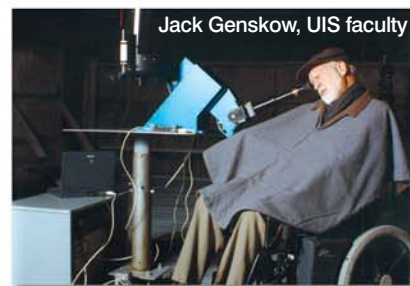
Closer to earth. Astronomers' knowledge of physics and mathematics makes them outstanding researchers, highly recruited by scientific research and development firms and the federal government. Research conducted by astronomers has led to advances in navigation, space flight, and satellite communications.

High-tech gazing. Talk about star power. UIS astronomy students work with phenomenal equipment: a 20-inch research telescope, 14- and 16-inch Schmidt-Cassegrain telescopes, Newtonian telescopes, a comet telescope, an objective prism, a diffraction-grating spectrograph, and lots more. You'll feel like a kid in an astronomical candy store.

Star Parties. It's a 30-year tradition open to the public. The UIS Friday Night Star Parties have attracted more than 120,000 people of all ages to the rooftop campus observatory. Over the years, stargazers have seen the moon and planets, deep-sky objects such as the Orion Nebula, and special astronomical events including lunar and solar eclipses and comets.

What can I do with this degree?

Almost all astronomers do research. Some are theoreticians, working on the laws governing the structure and evolution of astronomical objects. Others analyze large quantities of data gathered by observatories and satellites, and write scientific papers on their findings. Some astronomers operate large space- or ground-based telescopes, usually as part of a team. A small number of astronomers work in planetariums. Most students serious about becoming research astronomers go on to earn doctoral degrees. Many students who take astronomy/physics go into high school and middle school teaching.



Jack Genskow, UIS faculty

Unlimited space. The astronomy program at UIS developed the world's first telescope for people with disabilities. It has a fixed-focal point, so observers using wheelchairs can point the telescope in any direction in the sky without moving. The eyepiece is further arranged so that persons with the most severe disabilities can also use the instrument.



The goal of the astronomy curriculum at the University of Illinois at Springfield is to provide students with the opportunity to learn about the astronomical universe through a variety of courses, research, and public outreach activities.

To achieve this goal, students may pursue an individualized degree through the UIS Liberal Studies Program (B.A.) or Individual Option Program (M.A.). The astronomy-physics option provides courses and laboratory work in astronomy and physics, with opportunities for students to do research with astronomy-physics faculty.

Students should consult the astronomy-physics faculty in conjunction with the liberal studies or individual option programs for advice about courses needed to obtain a degree.

Faculty John Martin, Charles Schweighauser (Emeritus), Alex Casella (Emeritus)

Associated Faculty

Hei-Chi Chan

Adjunct Faculty Dawn Jacobs, Jennifer Thomas

Astronomy-Physics Courses
Courses of General Interest

ASP 101	Survey of the Universe	4 hrs.*
ASP 420	Topics in Astronomy: Theories of the Universe, The Solar System	4 hrs.

Courses for Science Students

ASP 203	Modern Astronomy	4 hrs.
ASP 404	Astrophysics	4 hrs.
ASP 406	Modern Cosmology	4 hrs.
ASP 407	Practical Astronomy	2 hrs.
ASP 408	Observational Astronomy	2 hrs.
ASP 409	Galaxies: Structure and Evolution	4 hrs.
ASP 410	Research	1-4 hrs.

Courses in Physics

ASP 104	Introduction to Physical Science	3 hrs.
ASP 201	University Physics I	4 hrs.
ASP 202	University Physics II	4 hrs.

*This course is also offered on a non-credit basis to residents of Central Illinois.

“The scientist studies nature because it is beautiful.” –*Poincaré*

Equipment

The UIS astronomy program possesses astronomical research and teaching equipment that is among the finest in the state of Illinois:

- 14-inch Schmidt-Cassegrain telescope
 - 8-inch Schmidt-Cassegrain telescope
 - 8-inch Newtonian telescope
 - 8-inch disability-friendly fixed-focal point telescope
 - 3-inch comet telescope
 - Hydrogen-alpha filter for solar work
 - Objective prism
- The Henry R. Barber Research Observatory, 25 miles from the campus under dark skies, includes:
- 20-inch Cassegrain telescope (for spectroscopy)
 - 16-inch Schmidt-Cassegrain telescope (for photometry)
 - Diffraction-grating spectrograph
 - Echelette Spectrograph
 - Photometric equipment
 - Two charge-coupled devices (CCDs)

To view course descriptions

www.uis.edu/uiscatalog

CONTACT INFORMATION

Astronomy

(217) 206-6589 or asp@uis.edu

Website

www.uis.edu/astronomy

Liberal Studies/Individual Option

(217) 206-6962, lis@uis.edu or ino@uis.edu

Office of Admissions

(217) 206-4847

Or Toll free at (888) 977-4847

admissions@uis.edu

www.uis.edu/admissions

IMPORTANT!—Information effective fall 2009. Subject to change without notice. The information is not to be considered final, nor does it constitute a contract between the student and UIS. See uis.edu/uiscatalog for current program requirements.

