

# ASTRONOMY AND ASTROPHYSICS, B.S.

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**Begin Campus:** Any Penn State Campus

**End Campus:** University Park

## Program Description

Astronomy involves the study of the properties, physical nature and origins of the planets, stars, galaxies and universe as a whole. It involves development of instrumentation, observations of celestial objects with ground- and space-based telescopes, and interpretation of findings using the mathematical laws of physics such as gravity, electromagnetism and quantum mechanics. The undergraduate major provides a strong and broad foundation in mathematics, physical science and computation as well as a detailed understanding of modern astronomy. Many research opportunities are available to complement the formal classwork. Graduates proceed to advanced degrees in astronomy and other sciences, and into a wide variety of technical professions.

## What is Astronomy and Astrophysics?

Astronomy and Astrophysics is the study of the fundamental problems of the nature and evolution of our Universe. Astronomy and Astrophysics includes topics ranging from the most distant and powerful objects in the universe, quasars and gamma ray bursts, to the origins of chemical elements in stars, to planets, both in our solar system and in orbit around other stars.

## You Might Like This Program If...

- You enjoy applying the ideas of physics to the study of complex systems and phenomena found beyond the Earth.
- You want to study the answers to big questions relating to astronomy, such as 'how was the universe created?' and 'how likely is it that life exists outside the Earth?'
- You enjoy writing computer software to solve problems.
- You have an interest in computer image processing and analysis.