

# Astronomy (ASTR)

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**ASTR 5101. Principles of Astronomy I. 4 Hours.**

A calculus-based course covering astronomical observations, analysis of celestial motions, and a study of the solar system.

**ASTR 5102. Principles of Astronomy II. 4 Hours.**

A calculus-based course covering the physics of the sun and stars, stellar evolution, galactic structure and the universe.

**ASTR 5400. Planetary Geology. 3 Hours.**

Pre-requisite: ASTR 1010K or GEOL 1121K or GEOG 1113K. Prerequisite or Co-requisite: PHSC 1100 or PHYS 1111K or PHYS 2211K. A study of the geology of the terrestrial planets and solid-surface moons, asteroid, comets and meteorites. The course will focus on comparative planetary geology, with emphasis on geologic processes on the surface planetary interiors, and data collection methods such as remote sensing and image analysis.

**ASTR 6100. Observational Techniques. 3 Hours.**

Aspects of instrumental and observational astronomy including the optics of the telescope, spectroscopy, photopgraphy, photometry, electronics, CCDs, astrometrical problems, the operation of the observatory, and mathematical methods of data reduction.

**ASTR 6400. Physics of the Solar System. 3 Hours.**

Celestial mechanics; physical features of the sun, planets, moons, and other material in the solar system.

**ASTR 6410. Astrophysics. 3 Hours.**

Radiative transfer in the stellar atmosphere, the interior structure of stars, stellar evolution, physical processes in gaseous nebulae, cosmology.

**ASTR 6800. Internship in Astronomy. 3-6 Hours.**

Active participation in research in astronomy, or in some field of science closely allied with astronomy, or work with a planetarium or museum which involves planetarium operations and programs. A daily log of activities, a report on the work done, and a research paper relating the work done to the field of astronomy are required.

**ASTR 6900. Special Topics in Astronomy. 1-6 Hours.**

Topics to be assigned by instructor; may be taken more than once if topics are different; up to a total of 6 credit hour.

**ASTR 6950. Directed Study in Astronomy. 1-6 Hours.**

Study in area or subject not normally found in established courses offered by the department; may also allow student to explore in more detail and/or depth an area or subject covered by the department in astronomy; up to a maximum of 6 credit hours.