

# ASTR 281 : Space Explorations

Current topics in planetary exploration, extraterrestrial life, and space resources and colonization.

**Credits** 3

**Lecture Hours** 3

**Designation**

DP

**Prerequisites**

Credit for ASTR 110 or consent of instructor.

**Course Outcomes**

- Outline the characteristics and origins of objects in our solar system, including the sun, planets, moons, meteoroids, asteroids and comets.
- Compare and contrast terrestrial and Jovian worlds and apply geological and atmospheric concepts to comparative planetology.
- Explain the effects and implications of collisional impacts on planetary surfaces.
- Apply the laws of planetary motion and celestial mechanics.
- Outline the historical development of manned and unmanned space flight.
- Identify and describe the appropriate instruments, detectors and space probes used by astronomers and space scientists to explore the solar system, especially in the area of remote sensing.
- Discuss the future of space colonization and exploitation.
- Discuss the nature and origin of life on earth and apply the astronomical concepts related to the search for extraterrestrial life.