

NOVA COLLEGE-WIDE COURSE CONTENT SUMMARY

PHY 150 – ELEMENTS OF ASTRONOMY (4 CR.)

Course Description

Covers history of astronomy and its recent developments. Stresses the use of astronomical instruments and measuring techniques and includes the study and observation of the solar system, stars, and galaxies.

4 Credits. Lecture 3 hours. Lab 3 hours. Total 6 hours.

4 credits

General Course Purpose

This course serves as a one-semester laboratory science course for non-science majors and as a science elective for science majors. Students are exposed to the sciences of chemistry, physics, and geology and the philosophy of science as they relate to the study of the universe and the cosmos. Students will gain a perspective of humankind's presence on a small blue planet that orbits a non-descript star that is one of billions in an ordinary galaxy.

This course in conjunction with NAS 125 - Meteorology may fulfill the requirement as a one-year lab science course for non-science majors.

Course Prerequisites/Corequisites

Prerequisite: Placement into ENG 111 or division approval

Course Objectives

Upon completing the course, the student will be able to:

- Relate scientific principles to astronomical concepts and phenomena
- Exhibit knowledge and comprehension of subject matter through written coursework and evaluations
- Collect, evaluate, and process scientific data, investigate results, make inferences
- Develop basic research skills and communicate results of studies
- Demonstrate inclination for scientific inquiry and curiosity

Major Topics to be Included

- Celestial coordinate systems, astronomical timekeeping & eclipses
- The Scientific Method, planetary orbits, Kepler's Laws, Newton's Laws
- Light, optics & the electromagnetic spectrum
- Earth & Moon
- Solar system formation and extra-solar planets
- The planets & moons of the solar system
- Dwarf planets and smaller solar system bodies
- The Sun
- Stellar characteristics
- Star formation and the lives of stars
- The deaths and remnants of stars, and relativity
- The Galaxies
- Cosmology
- Astrobiology