ASTR 530 ASTRONOMY AND ASTROPHYSICS 1

Course Description

This course is a review of mechanics, electromagnetic radiation and atomic structure in the context of modern observational astrophysics. Solar system astrophysics—including an introduction to celestial mechanics and astronomical coordinate and time systems—are surveyed and astronomical instruments are discussed. (4 credit hours)

Prerequisites: PHYC 120, 122.

Not open to students who have credit in ASTR 330.

Course Objectives

The course is intended to introduce the students to the application of physics and physical laws processes and questions in astronomy.

Course Rationale

The course serves as an elective for physics majors.

Course Content, Format, and Bibliography

Content

Celestial mechanics

Physical processes in the solar system

Continuous electromagnetic radiation

Radiation and matter

Telescopes and detectors

Stellar Spectra, Atmospheres and Interiors

Format

Students are evaluated on the basis of homework and examinations. There is also a laboratory component to the course that requires written reports.

This course is taught as a dual undergraduate/graduate course. Students will be required to complete activities appropriate for the level of the course in which they are enrolled. Student performance on homework, exams and/or labs will be evaluated using different standards for undergraduate and graduate students.
Bibliography


Astronomy a Physical Perspective, by Marc L. Kutner, Cambridge University Press.