Astronomy (ASTR)

Courses

ASTR 1000. Introduction to Planetary Astronomy. Units: 3

Semester Prerequisite: Satisfactory completion of GE mathematics requirement, area B4

A brief history of the development of astronomy followed by modern descriptions of our planetary system, extrasolar systems, and the possibilities of life in the universe. Discussions of methods of extending knowledge of the universe. No previous background in natural sciences is required. Satisfies GE Category B1. Formerly offered as ASTR 103.

ASTR 1000L. Introduction to Planetary Astronomy Lab. Unit: 1

Semester Prerequisite: Satisfactory completion of GE mathematics requirement, area B4

Semester Corequisite: ASTR 1000

Laboratory associated with Introduction to Planetary Astronomy (ASTR 1000). Satisfies GE Category B3. Materials fee required.

ASTR 1010. Introduction to Galaxies and Cosmology. Units: 3

Semester Prerequisite: Satisfactory completion of GE mathematics requirement, area B4

A brief history of the development of astronomy followed by modern descriptions of stars, galaxies, and structure, evolution, and eventual fate of the universe. Discussions of methods of extending knowledge of the universe. No previous background in natural sciences is required. Satisfies GE Category B1. Formerly offered as ASTR 103.

ASTR 1010L. Introduction to Galaxies and Cosmology Lab. Unit: 1

Semester Prerequisite: Satisfactory completion of GE mathematics requirement, area B4

Semester Corequisite: ASTR 1010

Laboratory associated with Introduction to Galaxies and Cosmology (ASTR 1010). Satisfies GE Category B3. Materials fee required.

ASTR 2300. Introduction to Astronomy for Scientists. Units: 4

Semester Prerequisite: PHYS 2510, 2510L. Prerequisite: PHYS 223, MATH 213

A brief history of the development of astronomy followed by modern physical descriptions of our planetary system, extrasolar systems, stars, galaxies, and models of the universe. Discussions of methods of extending knowledge of the universe. Three hours lecture and three hours laboratory. Materials fee required.

ASTR 3000. Life in the Cosmos. Units: 3

Semester Prerequisite: junior or senior standing, completion of the B1, B2, and B4 general education requirements. Quarter Prerequisite: junior or senior standing

Life in the cosmos is discussed using the findings of astronomy, biology, chemistry and physics. Topics include the development of life and its environment, the search for life, interstellar communications and travel, and the effects of contact. Satisfies GE Category B5. Formerly NSCI 314, students may not receive credit for both.

ASTR 3300. Astrophysics of Planetary Systems. Units: 3

Semester Prerequisite: ASTR 2300

Physical principles of planetary systems and their formation, stellar structure and evolution. Formerly PHYS 370; students may not earn credit for both courses.

ASTR 3310. Astrophysics of Galaxies and Cosmology. Units: 3

Semester Prerequisite: ASTR 2300

Physical principles of stellar evolution, galactic structure, extragalactic astrophysics, and cosmology.

ASTR 4000. Observational Astronomy. Units: 3

Semester Prerequisite: ASTR 2300, PHYS 3300 or other computer programming course. Prerequisite: CSE 201 or other computer programming course

Introduction to the operation of telescopes to image astronomical targets, primarily in the optical range. Topics include night sky motion and coordinate systems; digital imaging, reduction, and analysis; proposal design and review; and observation run planning. Projects include observation and analysis of both pre-determined objects and objects of the students' choosing. Presentations throughout the course using multiple methods of written and oral communication. Counts towards the General Education Writing Intensive (WI) requirement. One hour lecture, three hours lab and three hours supervision. Night-time observing required. Formally a topic under PHYS 485. Students may not earn credit for both courses.