Astronomy (ASTR)

Courses

ASTR 20001. Survey of the Universe Laboratory (ACTS Equivalency = PHSC 1204 Lab). 1 Hour.
Daytime and nighttime observing with telescopes and indoor exercises on selected topics. Pre- or Corequisite: ASTR 20003. (Typically offered: Fall, Spring and Summer)

ASTR 20003. Survey of the Universe (ACTS Equivalency = PHSC 1204 Lecture). 3 Hours.
An introduction to the content and fundamental properties of the cosmos. Topics include planets and other objects of the solar system, the Sun, normal stars and interstellar medium, birth and death of stars, neutron stars, pulsars, black holes, the Galaxy, clusters of galaxies, and cosmology. Corequisite: ASTR 20001 or ASTR 200H1. (Typically offered: Fall, Spring and Summer)

ASTR 200H1. Honors Survey of the Universe Laboratory. 1 Hour.
An introduction to the content and fundamental properties of the cosmos. Topics include planets and other objects of the solar system, the sun, normal stars and interstellar medium, birth and death of stars, neutron stars, and black holes. Pre- or Corequisite: ASTR 20003 or ASTR 200H3. (Typically offered: Fall)
This course is equivalent to ASTR 20001.

ASTR 200H3. Honors Survey of the Universe. 3 Hours.
An introduction to the content and fundamental properties of the cosmos. Topics include planets and other objects of the solar system, the Sun, normal stars and interstellar medium, birth and death of stars, neutron stars, pulsars, black holes, the Galaxy, clusters of galaxies, and cosmology. Corequisite: ASTR 200H1. (Typically offered: Fall)
This course is equivalent to ASTR 20003.

ASTR 40303. Astrophysics I: Stars and Planetary Systems. 3 Hours.
An introduction to astrophysics covering stellar structure and evolution, the properties of the solar system, and extrasolar planetary systems. Prerequisite: PHYS 36103 or CHEM 35004. (Typically offered: Fall Odd Years)

ASTR 40403. Astrophysics II: Galaxies and the Large-Scale Universe. 3 Hours.
An introduction to astrophysics covering the interstellar medium, the Milky Way galaxy, extragalactic astronomy, and introduction to cosmology. Prerequisite: ASTR 40303. (Typically offered: Spring Even Years)

ASTR 40703. Cosmology. 3 Hours.
An introduction to modern Big Bang cosmology. The course covers the origin, evolution, and structure of the Universe, based on the Theory of Relativity. Prerequisite: PHYS 36103 or CHEM 35004. (Typically offered: Spring Odd Years)

ASTR 40803. Data Analysis and Computing in Astronomy. 3 Hours.
Study of the statistical analysis of large data sets that are prevalent in the physical sciences with an emphasis on astronomical data and problems. Includes computational lab 1 hour per week. Prerequisite: PHYS 36103. (Typically offered: Fall Even Years)

ASTR 50303. Astrophysics I: Stars and Planetary Systems. 3 Hours.
An introduction to astrophysics covering stellar structure and evolution, the properties of the solar system, and extrasolar planetary systems. (Typically offered: Fall Odd Years)
This course is cross-listed with SPAC 50303.

ASTR 50403. Astrophysics II: Galaxies and the Large-Scale Universe. 3 Hours.
An introduction to astrophysics covering the interstellar medium, the Milky Way galaxy, extragalactic astronomy, and introduction to cosmology. Prerequisite: ASTR 50303 or SPAC 50303. (Typically offered: Spring Even Years)

ASTR 50703. Cosmology. 3 Hours.
An introduction to modern physical cosmology covering the origin, evolution, and structure of the Universe, based on the Theory of Relativity. (Typically offered: Spring Odd Years)

ASTR 50803. Data Analysis and Computing in Astronomy. 3 Hours.
Study of the statistical analysis of large data sets that are prevalent in the physical sciences with an emphasis on astronomical data and problems. Includes computational lab 1 hour per week. (Typically offered: Fall Even Years)

ASTR 55203. Theory of Relativity. 3 Hours.
Conceptual and mathematical structure of the special and general theories of relativity with selected applications. Critical analysis of Newtonian mechanics; relativistic mechanics and electrodynamics; tensor analysis; continuous media; and gravitational theory. (Typically offered: Fall Even Years)