

Astronomy

Courses

ASTRON 1001 Cosmic Evolution Introductory Astronomy (MOTR ASTR 100): 3 semester hours

This course presents an overview of astronomy from the planets to the Big Bang. Topics include the celestial motions, planets and the formation of the solar system, stars and stellar evolution, galaxies, and cosmology. Students will be introduced to the latest discoveries and how they affect our understanding of the universe.

ASTRON 1001L Introductory Astronomy Laboratory: 1 semester hour

Prerequisite: ASTRON 1001 (may be taken concurrently). An introductory Astronomy laboratory to accompany ASTRON 1001. The format is a 2-hour laboratory session per week to enhance lecture material.

ASTRON 1011 Planets and Life in the Universe: 3 semester hours

Man's concept of the solar system from Stonehenge to Einstein; geology and meteorology of the planets of our solar system, with particular attention to results from the space program; exobiology--study of the possibilities of life on other worlds and the best method of communicating with it. Three lecture hours per week.

ASTRON 1012 The Violent Universe and the New Astronomy: 3 semester hours

A nontechnical course focusing on recent results which larger telescopes and the space program have made available. Pulsars, x-ray stars, and black holes; radio astronomy, our galaxy, and interstellar molecules; exploding galaxies and quasars; origin of the expanding universe. Three lecture hours and one observing session per week.

ASTRON 1050 Introduction to Astronomy I (MOTR ASTR 100): 3 semester hours

Prerequisites: MATH 1030 and MATH 1035. A survey of the history of astronomy from the ancient times to present. Theories for the formation and evolution of the solar system and the general features of the solar system and planetary motions are discussed. The physical concept of gravity is presented. The detailed properties of the planets, comets, and asteroids are reviewed, concentrating on recent results from space missions.

ASTRON 1051 Introduction to Astronomy II: 3 semester hours

Prerequisites: MATH 1030 and MATH 1035. A survey of astronomy beyond the solar system. Topics include stars and stellar evolution, neutron stars, and black holes. The physical concept of light and the design of telescopes is discussed in detail. The structure of the Milky Way Galaxy and the large scale structure of the universe are explored. Dark matter, quasars, and active galactic nuclei are discussed in the context of theories for the formation and evolution of the universe. Course does not need to be taken in sequence with ASTRON 1050.

ASTRON 4301 Astrophysics: 3 semester hours

Prerequisite: PHYSICS 3231 or consent of instructor. A moderately technical introduction to astrophysics. Topics will include: physics of stellar interiors and atmospheres; interpretation of stellar spectra; stellar evolution; radio astronomy; and cosmology.

ASTRON 4322 Observational Astronomy: 4 semester hours

Prerequisite: ASTRON 1050, ASTRON 1051 and PHYSICS 3231. Tools of the astronomer: telescopes, spectroscopy, photoelectric photometry. Students will work on a number of projects which will enable them to develop expertise in obtaining, reducing, and analyzing astronomical observations. Student night observing will be an important part of the course. This course is primarily for persons who are astronomy or physics majors or who have some equivalent background.

ASTRON 5322 Intermediate Observational Astronomy: 4 semester hours

Prerequisites: ASTRON 1050, ASTRON 1051, and PHYSICS 3231; or graduate standing. This course covers the tools of the astronomer: telescopes, spectroscopy, photoelectric photometry. Students will work on a number of intermediate projects, which will enable them to develop expertise in obtaining, reducing, and analyzing astronomical observations. Student night observing will be an important part of this course. This course is primarily for astronomy or physics majors. Students may not receive credit for both ASTRON 4322 and ASTRON 5322.