

ASTRONOMY (ASTR)

Courses

ASTR 1400. Exploring the Cosmos w/lab. 0 or 4 Credits.

Introduction to the basic concepts of astronomy as well as the history of their development. Includes a laboratory component. Credit not awarded for both ASTR 1400 and ASTR 1405. Catamount Core: N2, QD.

ASTR 1405. Exploring the Cosmos. 3 Credits.

Introduction to the basic concepts of astronomy as well as the history of their development. No laboratory. Credit not awarded for both ASTR 1405 and ASTR 1400. Catamount Core: N1, QD.

ASTR 1990. Special Topics. 1-18 Credits.

See Schedule of Courses for specific titles.

ASTR 2100. The Big Bang. 3 Credits.

Ancient cosmologies, beginning of time, origin of matter, cosmic background radiation, antimatter and dark matter, the expanding universe and origin of structure. Prerequisites: ASTR 1405; MATH 1034 or equivalent.

ASTR 2120. Spacecraft Astronomy. 3 Credits.

Survey of recent astronomical satellites such as Hubble, Chandra and Fermi LAT; their design, orbital characteristics, and findings. Prerequisites: ASTR 1405; MATH 1034 or equivalent.

ASTR 2140. Stars & Galaxies. 3 Credits.

Instruments and observations. Stars and their evolution. Black holes and compact objects. The interstellar medium. Relativity and galactic structure and galaxy formation. Prerequisites: ASTR 1400 or ASTR 1405; MATH 1034 or Instructor permission. Catamount Core: N1, QD.

ASTR 2160. Moons & Planets. 3 Credits.

Celestial mechanics, formation of the stars, and planetary materials. Planets, satellites, asteroids, meteors, and comets. Planetary surfaces, interiors, and atmospheres. Origins of life. Prerequisites: ASTR 1405; MATH 1034 or equivalent.

ASTR 2990. Special Topics. 1-18 Credits.

See Schedule of Courses for specific titles.

ASTR 2993. Independent Study. 1-18 Credits.

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

ASTR 2995. Undergraduate Research. 1-18 Credits.

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

ASTR 3820. Modern Astrophysics. 3 Credits.

Introduces the foundations of modern astrophysics. Builds upon the knowledge gained in an introductory astronomy course, and uses the tools gained in introductory physics courses to put astronomical ideas on more solid quantitative footing. Students will develop the mathematical and qualitative tools necessary to analyze astrophysical phenomena including orbital motion, planet-moon interactions, stellar lifecycles, and much more. Prerequisites: MATH 1224, MATH 1242, or MATH 1248; PHYS 1500 or PHYS 1600.

ASTR 3990. Special Topics. 1-18 Credits.

See Schedule of Courses for specific titles.

ASTR 3991. Internship. 1-18 Credits.

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded Offered at department discretion.

ASTR 3993. Independent Study. 1-18 Credits.

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

ASTR 3994. Teaching Assistantship. 1-3 Credits.

Undergraduate student service as a teaching assistant, usually in an introductory-level course in the discipline, for which credit is awarded. Offered at department discretion.

ASTR 3995. Undergraduate Research. 1-18 Credits.

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

ASTR 4990. Special Topics. 1-18 Credits.

See Schedule of Courses for specific titles.

ASTR 4994. Teaching Assistantship. 1-3 Credits.

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.