ARTS AND LETTERS

College of Arts and Letters

390H. Perspectives in Literature
Fall. 4(3-0) Juniors, approval of Honors College.

Attention will be focused on several major literary works. Students will employ various types of literary analysis, considering theme, idea, structure, etc., and examining some major trends in contemporary literary criticism.

391H. Perspectives in the Social Sciences and Humanities
Fall, Winter, Spring. 2 to 6 credits. May reenroll for a maximum of 12 credits. Approval of department.

490. Doctoral Dissertation Research
Fall, Winter, Summer. Variable credit. May reenroll for a maximum of 36 credits. Approval of college.

399. Master's Thesis Research
Fall, Winter, Spring. Variable credit. May reenroll for a maximum of 12 credits. Approval of department.

ASTRONOMY AND ASTROPHYSICS

College of Natural Science

109. Astronomical Fiction
Winter. 1(1-0) AST 119 concurrently. Concurrent readings of works of science fiction to assist the visualization of the concepts presented in AST 119.

115. Exploring Cosmology
Spring. 2(2-0) Not open to engineering or physical science majors. Nonmathematical view of the origin, history, and overall structure of the universe, based on the Big Bang model of cosmology.

117. Introductory Observing
Fall. 2(2-0) AST 119, or AST 217, or AST 229 concurrently and approval of department. Observations of celestial objects, constellation identification, and occasional planetarium exercises.

119. General Astronomy (N)
Fall, Winter, Spring. 4(4-0) Not open to engineering or physical science majors. Students may not receive credit in more than one of the following: AST 119, AST 217, AST 229.

A qualitative presentation of man's current view of the universe including birth and death of stars, cosmology, comparisons of planets, and life in the universe.

217. General Astronomy (N)
Fall, Winter. 4(4-0) MTH 102 or MTH 109 or MTH 111. Students may not receive credit in more than one of the following: AST 119, AST 217, AST 229.

Intended primarily for physical science majors. A qualitative presentation of man's current view of the universe including birth and death of stars, cosmology, comparisons of planets, and life in the universe.

327. Practical Astronomy
Winter. 3(3-0) AST 217 or AST 229. Variable credit. May reenroll for a maximum of 24 credits. Stellar coordinates, time conversion, and celestial phenomena. Application of physical principles to the atmosphere and interiors of stars to deduce their physical properties. Discussion of radiation, spectra, and gas properties.

375. Contemporary Astronomy
Winter. 3(3-0) AST 217 or AST 229. Variable credit. May reenroll for a maximum of 12 credits. Approval of department. A continuation of General Astronomy with particular emphasis on modern developments. May include such topics as planetary exploration, interstellar matter, star formation, stellar evolution through mapping stages, supernovae, pulsars, neutron stars, black holes, galaxies, and cosmology.

379. General Astronomy
Fall. 4(4-0) PHY 287 or PHY 291H concurrently. Students may not receive credit in more than one of the following: AST 119, AST 217, AST 229. Fundamental observations in astronomy and their interpretation through physical laws. Intended for physical science majors and recommended for astrophysics majors. Quantitative discussion of orbital motion, time, telescopes, solar system, stars, galaxies, and cosmology. Limited opportunity for astronomical observations.

455. Astrophysics
Winter. 3(3-0) AST 217 or AST 229, PHY 289, PHY 385, or approval of department. Stellar photometry, photometric photometry and measurements for atmospheric transmission. Multicolor photometric systems. Astronomical spectroscopy and radial velocity determinations.

459. Solar System Physics
Spring. 3(3-0) PHY 289 or approval of department. Physical properties of the sun, interplanetary space, planets, and satellites as deduced from terrestrial observations and from space probes. Recent results of the NASA space program will be emphasized.

490. Special Problems
Fall, Winter, Spring. 1 to 5 credits. May reenroll for a maximum of 10 credits. Approval of department. Individual study or project under the direction of a faculty member. An oral report on the work may be required in department seminar.

800. Research Methods
Fall, Winter, Spring. 2(0-6) May reenroll for a maximum of 6 credits. Beginning graduate students. Interdepartmental with and administered by the Department of Physics. Problems and techniques of current research by taking part in the design and setup of experiments, data taking and reduction, study and practice of theoretical methods. Areas of study: solid state and molecular structure, nuclear, elementary particles, astronomy, astrophysics.