

**Descriptions – Art
of
Courses**

- 445C. Advanced Product Design III**
Spring, 5(1-8) STA 445B.
Product design thesis. Design and development of a product system using data developed in STA 444B. Design solution will be presented in the form of a one-person exhibition.
- 446. Product Design Workshop**
Fall, Winter, Spring, 2(0-4) May reenroll for a maximum of 12 credits if different topic is taken. STA 231, STA 239, STA 245. A Product Design or an Advanced Product Design course concurrently.
Intense investigation of one product or product type such as furniture design, toy design, and package design. Workshop subject will change every term and will be announced prior to early registration. Students will investigate design principles, user behavior, materials, processes and trends of the workshop subject.
- 447. Industrial Design Internship**
Fall, Winter, Spring, Summer, 5 to 15 credits. May reenroll for a maximum of 15 credits. Approval of department.
An off-campus field study program in Industrial Design. Students will gain pre-career experience by working in a design environment under the supervision of a professional Industrial Designer.
- 449. Advanced Metalsmithing**
Fall, Winter, Spring, 2 to 6 credits. May reenroll for a maximum of 35 credits. STA 249, STA 349 or approval of department.
Hollow form emphasized. Smithing including raising, forging, and Masonite die. Additional specialized techniques such as resins, enamels, electro forming, and tool making. Individual development emphasized.
- 450W. Art Workshop**
Summer, 1 to 6 credits. May reenroll for a maximum of 15 credits. Approval of department.
Specific sessions of short duration (one to three weeks) permitting a concentrated experience in one area of interest within the general studio spectrum.
- 800. Studio Problems**
Fall, Winter, Spring, Summer, 1 to 12 credits. May reenroll for a maximum of 24 credits.
Studio problems in drawing, painting, printmaking, graphic design, industrial design, interior design, advertising design, sculpture-carving, sculpture-direct metal, ceramics.
- 801. Painting**
Fall, Winter, Spring, Summer, 3 to 12 credits.
Advanced work in a variety of painting media with strong emphasis on independent development.
- 802. Drawing**
Fall, Winter, Spring, Summer, 3 to 12 credits.
Advanced work in drawing employing a variety of media and calculated to contribute to development in related areas of art practice.
- 803. Sculpture**
Fall, Winter, Spring, Summer, 3 to 12 credits.
Advanced work in a variety of three dimensional media with strong emphasis on individual development.
- 804. Ceramics**
Fall, Winter, Spring, Summer, 3 to 12 credits.
Advanced work in pottery involving a variety of experiences and leading to independent development.
- 805. Serigraphy**
Fall, Winter, Spring, Summer, 3 to 12 credits.
Work in silk screen printmaking techniques leading to independent expressive development.
- 806. Graphic Design**
Fall, Winter, Spring, Summer, 3 to 12 credits.
Advanced work in all phases of the area of graphic design leading to independent development.
- 807. Industrial Design**
Fall, Winter, Spring, Summer, 3 to 12 credits.
Advanced study in the areas of design analysis and product development with emphasis on continued independent development.
- 808. Jewelry and Metal**
Fall, Winter, Spring, Summer, 3 to 12 credits.
Advanced work in jewelry and metal, and other related areas leading to continued independent development.
- 809. Etching**
Fall, Winter, Spring, Summer, 3 to 12 credits.
Work in etching leading to expressive independent development.
- 810. Lithography**
Fall, Winter, Spring, Summer, 3 to 12 credits.
Work in lithographic techniques leading to expressive independent development.
- 811. Criticism in Contemporary Art**
Fall, Winter, Spring, 4(4-0) Approval of department.
Principles of evaluation in the visual arts today and their uses in the studio work of the contemporary artist.
- 816. Issues in Contemporary Art**
Fall, 3(3-0) Graduate students or approval of instructor.
Impact of technology, new media, exploitation and exhaustion of current styles, new sources of patronage, political control; implications of art systems replacing object art explored in seminars with staff.
- 820. Problems in Art Education**
Fall, Winter, Spring, Summer, 1 to 5 credits. May reenroll for a maximum of 10 credits. Contract from department required prior to registration.
- 821. Art Instructional Media Laboratory I--Multi-Media**
Fall, Winter, Spring, Summer, 4(1-9) May reenroll for a maximum of 8 credits. Approval of department.
Investigation of multi-media techniques as media of artistic expression and communication for application to art education or related fields.
- 822. Art Instructional Media Laboratory II--Television**
Fall, Winter, Spring, Summer, 4(1-9) May reenroll for a maximum of 8 credits. Approval of department. Interdepartmental and jointly administered with the Department of Telecommunication.
Analysis of teaching video tapes and television programs in art. Utilization of television as a medium of artistic expression and communication for application to art education or related fields.
- 825. Seminar in Art Education**
Fall, Winter, Spring, Summer, 2 to 4 credits. May reenroll for a maximum of 8 credits. Approval of department.
Examination and discussion of contemporary thought in the field of art education. Current problems examined within an interdisciplinary framework.
- 826. Critical Theory and Aesthetic Experience in Art Education**
Fall, Winter, Spring, Summer, 3(3-0) May reenroll for a maximum of 9 credits if different topics are taken. Approval of department.
Theories of art criticism and aesthetic experience. Organization of these concepts for application to art education programs or related fields.
- 827. Curriculum Design for Art Education**
Fall, Winter, Spring, Summer, 3(3-0) May reenroll for a maximum of 9 credits if different topics are taken. Approval of department.
Factors affecting art curriculum; analysis, preparation and evaluation.
- 828. Research Methods for Art Education**
Fall, Winter, Spring, Summer, 3(3-0) May reenroll for a maximum of 9 credits if different topics are taken. Approval of department.
Orientation to research; designs and methodologies applicable to the study of problems in art education.
- 840. Teaching Seminar--Art Practice**
Fall, Winter, Spring, Summer, 1 to 3 credits. May reenroll for a maximum of 6 credits. Approval of department.
Supervised teaching of college classes in art practice.
- 899. Master's Thesis Research**
Fall, Winter, Spring, Variable credit. May reenroll for a maximum of 12 credits. Approval of department.

ARTS AND LETTERS A L

College of Arts and Letters

- 210. Film: An Introduction**
Fall, Winter, Spring, 4(2-4)
An interdisciplinary examination of film, to enhance the student's knowledge and appreciation of the film experience by focusing on theory, practice, history, social meaning, and criticism.

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 Philosophy

Winter. 4(3-0) Juniors, approval of Honors College.

The two primary areas of concern will be ethics and aesthetics, the emphasis on one or the other to be determined by the professor. The course will include reading of major works, discussion of major figures in the fields, and the preparation of a substantial paper.

392H. Perspectives in History

Spring. 4(3-0) Juniors, approval of Honors College.

The focus will be on the nature of international diplomacy in the 20th century, the development of nationalism, the balance of power system, the influence of new ideologies, and the developments of the power structure since 1945.

393H. Perspectives in 20th Century Arts: 1900-1920

Fall. 3(3-0) Juniors, approval of Honors College.

Reaction to Naturalism across the arts traced in Symbolism and Expressionism as interrelated phenomena in response to the crisis of confidence in European institutions.

394H. Perspectives in 20th Century Arts: 1920-1945

Winter. 3(3-0) Juniors, approval of Honors College.

Formalist analysis of art elements examined across the arts in Cubism, Surrealism and new musical structures as positive response to war, depression and dictatorship.

395H. Perspectives in Contemporary Arts: Postwar Period

Spring. 3(3-0) Juniors, approval of Honors College.

The function of avant-garde arts after World War II to the present studied in the new dimensions of an environment created by new technology and the mass media explosion.

450. Arts Management

Fall, Winter, Spring. 3 to 5 credits. May reenroll for a maximum of 9 credits. Seniors or Graduate Students or approval of department.

Administration of arts organizations, management of facilities, understanding operational methods and procedures of performing companies, financial structure and funding of arts centers, study of audience development, contemporary trends in arts management field.

461. Aging and Human Values

Spring. 3(3-0) Juniors.

Development of personal and professional responses to value-laden questions concerning aging and the elderly through historical, literary, philosophical and related perspectives.

491H. Perspectives in the Social Sciences and Humanities

Fall, Winter, Spring. 2 to 6 credits. May reenroll for a maximum of 12 credits if different topic is taken. Juniors, approval of Honors College, or approval of instructor. Interdepartmental with the College of Social Science and Justin Morrill Inter-College Programs.

An integration of subject matter and methodologies of several disciplines as they are relevant to particular topic areas.

492. Integrative Topics in the Arts and Humanities

(U C 492.) Fall, Winter, Spring. 4(4-0) May reenroll for a maximum of 8 credits. Juniors or approval of department.

In-depth study of topics in the arts and humanities. Integrative and interdisciplinary approach.

499. Arts and Letters Internship

Fall, Winter, Spring, Summer. 1 to 10 credits. May reenroll for a maximum of 10 credits. Juniors, 3.00 GPA, approval of instructor.

Supervised pre-professional field experience for juniors, seniors, or graduate students.

999. Doctoral Dissertation Research

Fall, Winter, Spring, Summer. Variable credit. May reenroll for a maximum of 36 credits. Approval of college.

**ASTRONOMY AND
ASTROPHYSICS**

AST

College of Natural Science

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, Spring. 2(1-2) AST 119, or AST 217, or AST 229 or concurrently and approval of department.

Observations of celestial objects, constellation identification, and occasional planetarium exercises.

119. General Astronomy (N)

Fall, Winter, Spring, Summer. 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.

120. Topics in Astronomy

Winter, Spring. 4(4-0) AST 119.

Detailed qualitative discussion of currently interesting topics in astronomy. May include such topics as quasars, pulsars, black holes, planetary exploration, cosmology, concepts of relativity.

217. General Astronomy (N)

Fall, Winter, Spring. 4(4-0) 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 semiquantitative presentation of current views of the universe including birth and death of stars, cosmology, comparisons of planets, and life in the universe.

229. General Astronomy

Fall. 4(4-0) PHY 287 or PHY 291H or concurrently; MTH 113. 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.

237. Introductory Observatory Laboratory

Fall. 1(0-3) AST 217 or AST 229 or concurrently.

Photographic and spectroscopic telescopic observations. Darkroom processing.

327. Practical Astronomy

Winter. 3(3-0) AST 217 or AST 229, MTH 113.

Celestial coordinate systems. Time conversion and sidereal time. Atmospheric refraction, parallax, proper motion, aberration, and precession. Star catalogs and ephemerides. Finding charts and setting of equatorial telescopes.

378. Contemporary Astronomy

Winter. 3(3-0) AST 217 or AST 229.

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 final stages, supernovae, pulsars, neutron stars, black holes, galaxies, and cosmology.

437. Observatory Practice

Spring. 3(1-4) AST 327 and approval of department.

Stellar photography. Photographic photometry. Photoelectric photometry and corrections for atmospheric extinction. Multicolor photometric systems. Astronomical spectroscopy and radial velocity determinations.

451. Solar System Astrophysics

Fall. 3(3-0) PHY 427 or concurrently or approval of department.

Application of physical principles to the study of the planets, satellites, asteroids, comets, and interplanetary dust and gas. Mechanics of solar system objects.

452. Stellar and Interstellar Astrophysics

Winter. 3(3-0) PHY 364 or PHY 294 and PHY 395 or approval of department.

Emission, absorption and transfer of radiation in stars and the interstellar medium. Application of physical principles to the study of the interstellar medium and stellar interiors. Evolution of stars.

453. High-Energy Astrophysics

Spring. 3(3-0) PHY 364 or PHY 294 and PHY 395 or approval of department.

Application of fundamental physical laws of mechanics, gravitation, and electromagnetism to the dynamics of star systems, X-ray and radio sources such as galaxies and close binary stars, and to cosmology.

490. Special Problems

Fall, Winter, Spring, Summer. 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.