

ARTH 590H PROSEMINAR IN ART HISTORY METHOD (1-3)

Course for ITDS graduate and other art related students which will apply research technology to their thesis projects. Offered concurrently with ARTH 490H.

ARTH 595 SPECIAL STUDIES (1-4)

Prerequisites: graduate standing and consent of instructor.

ARTH 599 INTERNSHIP (1-4)

Graduate students, working through ITDS or related programs, will have an opportunity to gain practical skills by working in a variety of capacities, including gallery and museum situations in private and public sectors. Credit will be given for completion of 3 hours of work per week per unit, by prior arrangement with department coordinator and chair. Prerequisite: consent of instructor. A-F and Cr/NC.

Art Studio (ARTS)

ARTS 101 ART FUNDAMENTALS (3)

Basic design. A studio course in the study of form, color, and composition in 2-dimensional art; rendering of 3-dimensional objects from observation using line and values; and principles of perspective. Basic requisite course for studio courses on the 200 level.

ARTS 102 FUNDAMENTALS OF THREE DIMENSION DESIGN (3)

A studio course introducing the student to the principles of three dimensional design. Sculptural, architectural and design projects are realized through a series of assigned projects exploring form, volume, plane, line, and structure. Traditional and non-traditional sculptural materials are used. Prerequisite course for 200 level studio courses. Laboratory fee due at time of registration.

ARTS 103 SAFETY AND SHOP PRACTICES (1)

An activity course required for new or transfer sculpture students, or for any student wishing to have access to the wood shop or use power and hand tools dispensed from the tool crib. Class is recommended for all students majoring in Art Studio. Required for students in the Sculpture emphasis. Examinations required every semester for continued use of power equipment. Laboratory fee payable at registration. May be repeated for credit.

ARTS 104 STUDIO ART FOUNDATIONS (4)

This course is designed to encompass the primary learning objectives of ARTS 101 and 102 into one intensive studio experience. Geared specifically to incoming Art History and Studio Art majors, students will be asked to participate in a variety of activities and exercises that are designed to break down preconceived notions of art-making and the creative process, introduce a conceptual focus, and apply the basic principles of 2- and 3-dimensional design. Concurrent registration in ARTH 160 A/B is suggested. This course, when taken in conjunction with ARTS 103, meets the basic requisite for studio courses on the 200 level. Laboratory fee payable at registration.

ARTS 105 MEDIA ART FUNDAMENTALS (3)

Media Art Fundamentals is a foundation course exposing students to the various software applications used in media art production. Students will gain experience with the creation of still and moving images, sound recording, online presentations and digital printing. Lab fee payable at time of registration.

ARTS 199 STUDENT-INSTRUCTED COURSE (1-4)

Please see current Schedule of Classes for details. May be repeated for credit.

ARTS 200 PHOTOGRAPHY IN THE WORLD (3-4)

Lecture presenting overview of the role of photography in the world and an introduction to the creation of photographs. Integrates intellectual, analytical, and creative skills and capacities by examining photography from several perspectives. Photography's history, current forms, uses, and conventions included. Students will practice photography as a creative communicative endeavor.

ARTS 202 BEGINNING DRAWING (1-4)

A beginner's studio course in drawing employing a variety of media, including pencil, ink, charcoal, conte, and pastel. Includes a unit on objective drawing.

ARTS 204 BEGINNING LIFE DRAWING (1-4)

An introductory studio course in drawing from nature, including the human figure. Basic problems in dealing with the figure as subject matter.

ARTS 210 INTRODUCTION TO DIGITAL PHOTOGRAPHY (3)

An introduction to the theory, techniques and processes of still photography with a digital camera. Course content will emphasize photography's potential for self-expression and creative problem solving in an artistic context. Image output will include digital prints and on-line presentations. Lab fee payable at time of registration. Prerequisite: ARTS 105 or consent of Photography Director or Department Chair

ARTS 212 INTRODUCTION TO ANALOGUE / DARKROOM PHOTOGRAPHY (3)

An introduction to black and white analog 35mm photography and darkroom printing. Lab fee payable at time of registration. Prerequisite: ARTS 210 or consent of Photography Director or Department Chair

ARTS 220 BEGINNING PAINTING (1-4)

Studio course in painting in a variety of media, with primary concentration in oil. Directed problems. Work from imagination, still life, and the figure. Group and individual criticism.

ARTS 229 BEGINNING CERAMICS (2-4)

A studio course surveying a wide range of ceramic processes, including a variety of hand building techniques, working on potter's wheel, glazing, and firing. Directed problems cover both traditional/sculptural aspects of ceramics. Course includes lectures, demonstrations, discussion, critiques, and laboratory. Lab fee payable at time of registration.

ARTS 236 BEGINNING SCULPTURE (2-4)

A studio course offering a range of traditional and non-traditional sculptural processes and materials. Introduces the beginning student to welding, woodworking, mold-making, and casting. Group critiques, field trips, textbook required. Lab fee due at time of registration.

ARTS 245 BEGINNING PRINTMAKING (2-4)

A studio course introducing the student to a variety of printmaking media, which may include etching, lithography, woodcut, and linocut. Lecture, demonstration, and laboratory work, which may include proofing, printing, and a small edition. Laboratory fee payable at time of registration.

ARTS 273 ARTS AND LITERATURE: CRITICAL AND CREATIVE READINGS AND RENDERINGS (4)

This course explores the relationship between literature and art, paying attention to interrelationships between literary and artistic works and exploring different aspects of creativity, history and culture found in art and literature. Satisfies GE Area C2. Only one course numbered 273 in the Arts & Humanities will be considered for credit. Prerequisite: completion of GE Category A2 (Engl 101 or ENGL 100B) required.

ARTS 298 SELECTED TOPICS IN ART STUDIO (1-4)

A beginning studio course dealing with intensive study of a particular art topic, which may vary from semester to semester. May be repeated, and applicable to requirements for a major in art. Prerequisites: previous or concurrent enrollment in ARTS 101 and 102.

ARTS 300 GRADED ASSISTANCE PROJECTS (1-4)

Designed for advanced students to gain practical experience in the functions of art studios, workshops, classrooms or exhibition projects. Work under supervision of faculty or staff. Each unit requires 3 hours of work per week. Grade only. May be repeated for credit.

ARTS 301 ASSISTANCE PROJECTS (1-4)

Designed for advanced students to gain practical experience in the functions of art studios, workshops, classrooms, or exhibition projects. Work under supervision of faculty or staff. Each unit requires 3 hours of work per week. Cr/NC only. May be repeated for credit.

ARTS 302 INTERMEDIATE DRAWING (1-4)

Directed problems in drawing for the intermediate student. Work from both imagination or observational approaches. Prerequisite: ArtS 202 or 204. May be repeated for credit.

ARTS 304 INTERMEDIATE LIFE DRAWING (1-4)

A workshop in drawing the human figure for students who have fulfilled the beginning drawing prerequisite or are at intermediate skills levels. Group and individually directed special problems related to drawing the live model. Prerequisite: ARTS 204. May be repeated for credit.

ARTS 305 SPECIAL TOPICS IN PHOTOGRAPHY (3)

This is a rotating special topics in Photography studio art course. Course content may include alternative processes, interdisciplinary practices, moving image, sound recording, handmade artist books and other experimental approaches to image making. Lab fee payable at time of registration. Prerequisite: ARTS 212 or consent of Photography Director or Department Chair. May be repeated for credit.

ARTS 310 INTERMEDIATE DIGITAL PHOTOGRAPHY (3)

In this studio course intermediate theory, techniques and processes of digital photography will be explored with an emphasis on quality output. Students gain familiarity with a variety of input and output options and multiple image editing applications with emphasis placed on the creative use of new technology. Lab fee payable at time of registration. Prerequisite: ARTS 210 or consent of Photography Director or Department Chair may be repeated for credit.

ARTS 312 STUDIO LIGHTING (3)

A studio course that introduces concepts and techniques of studio lighting; medium and large format analog camera operation and advanced darkroom printing techniques. Lab fee payable at time of registration. Prerequisite: ARTS 212 or consent of Photography Director or Department Chair. May be repeated for credit.

ARTS 320 INTERMEDIATE PAINTING (1-4)

Intermediate-level studio course in painting. Directed and individual problems. Group and individual criticism. May only be repeated by majors. Prerequisite: ARTS 220. Laboratory fee payable at time of registration. May be repeated once for credit.

ARTS 329 INTERMEDIATE CERAMICS (2-4)

A studio course concentrating on wheel and hand building techniques to explore formal/functional issues in clay. Emphasis is placed on design issues, content, and developing a personal visual vocabulary through individual and group critiques. Laboratory exercises to develop color/texture in glazes and firing techniques are also covered. Lab fee payable at time of registration. Prerequisite: ARTS 229. May be repeated once for credit. Textbook required.

ARTS 336 INTERMEDIATE SCULPTURE (1-4)

A studio course with directed projects. Emphasis on content and developing a personal sculptural vocabulary through experimentation with traditional and non-traditional materials and processes. Group critiques, field trips, short writing assignments. Textbook required. Laboratory fee due at time of registration. Prerequisite: ARTS 236. May be repeated once for credit.

ARTS 340 INTERMEDIATE ETCHING AND WOODCUT (1-4)

A studio course on the intermediate level in various printmaking aspects, including woodcut, engraving, photo-engraving, monotype, and etching. Laboratory fee payable at time of registration. Prerequisite: ARTS 245. May be repeated once for credit.

ARTS 342 INTERMEDIATE LITHOGRAPHY (1-4)

Continued studio work at the intermediate level in lithographic methods, including color technology and conceptual development. Lecture, demonstration, and studio work. Laboratory fee payable at time of registration. Prerequisite: ARTS 245.

ARTS 382 INTERMEDIATE MONOPRINT (1-4)

An intermediate studio course emphasizing single and multiple images derived from a variety of original sources, including painting, hand-painted prints, collagraphs, chine colle, and multiple manipulated prints. A maximum of 3 upper-division units may be applied toward a printmaking or a painting emphasis. Laboratory fee payable at time of registration. Prerequisite: ARTS 245.

ARTS 395 COMMUNITY INVOLVEMENT PROGRAM (1-4)

Student-directed creative activities in behalf of nearby off-campus community agencies. One to 4 units of credit, based on 30 hours of contributed effort per unit per semester. Art education assistance and selected private enterprises. Six CIP units may be applied toward a degree. Prerequisite: prearranged program with community host-sponsor and consent of instructor.

ARTS 399 STUDENT-INSTRUCTED COURSE (1-4)

Please see current Schedule of Classes for details. May be repeated for credit.

ARTS 400 ART IN THE CLASSROOM (3)

Combined lecture/lab course for teaching credential candidates (K-12). Skills, methods, and ideas for introducing art education to children/adolescents will be discussed/practiced, based on the California Framework for Art Education, and intended to stress the necessity of art instruction for the young. Art education history will be covered.

ARTS 402 ADVANCED DRAWING (1-4)

Independent work from imagination or nature for the advanced student. Can be arranged as correlative drawing problems done in conjunction with advanced studio projects in area of emphasis. May be repeated for up to a maximum of 12 units. Prerequisites: at least 4 units of ARTS 202 or 204, and 3 units of 300-series drawing courses, or consent of instructor.

ARTS 404 ADVANCED LIFE DRAWING (2-4)

An advanced studio life drawing class with directed special problems related to drawing the live model and to drawing from nature. May be repeated for up to a maximum of 12 units. Prerequisite: ARTS 304.

ARTS 420 ADVANCED PAINTING (2-4)

Continued studio work in painting in oils and/or acrylics. May be repeated by art majors only for credit up to a maximum of 9 units, more for B.F.A. students. Prerequisite: ARTS 320. Laboratory fee payable at time of registration.

ARTS 429 ADVANCED CERAMICS (2-4)

A studio course addressing advanced throwing and hand building, glazing, and firing techniques. Emphasis is placed on content and development of a personal voice in ceramics. Students are encouraged to create individual project plans and work large scale. Prerequisites: ARTS 229 and 329. Lab fee payable at time of registration. May be repeated once for credit.

ARTS 430 LARGE SCALE CLAY AND INSTALLATION OF CERAMIC SCULPTURE (2-4)

Course concentrates on large scale ceramics sculpture/installation. Hand building and wheel throwing techniques utilized. Emphasis placed on project planning, content, and developing a personal visual vocabulary through individual/group critiques. Lab fee payable at registration. Prerequisites: ARTS 229 and 329 or 330. Can replace one semester of Advanced Ceramics.

ARTS 432 CERAMIC MATERIALS (2-4)

General course covering origin/properties of clays, composition, properties/uses of materials in glazes, and calculation of glaze formulas/batches. Laboratory exercises involve use/properties of materials, development of clay body compositions and development of color/texture in glazes. Prerequisites: ARTS 229 and 330 or 329. Can replace one semester of Advanced Ceramics.

ARTS 435 BRONZE FOUNDRY (2-4)

In-depth instruction of processes involved in producing bronze sculpture. Students explore all aspects of realizing sculpture in bronze, from clay or plaster molds to wax: various methods of wax working/mold making, including ceramic shell, sand, and investment; casting; and patination. Group critiques, field trips. Laboratory fee due at time of registration. Prerequisite: ARTS 236, or consent of instructor. Textbook required.

ARTS 436 ADVANCED SCULPTURE (2-4)

Studio and field work that emphasizes the development of individual style. Group critiques, field trips, and short writing assignments. Text book required. May be repeated for credit up to a maximum of 15 units, more for B.F.A. Laboratory fee payable at time of registration. Prerequisite: 6 units of ARTS 336 or consent of instructor.

ARTS 437 COMMENCE: SCULPTURE PROJECTS (3)

In this intensive studio course, students learn the practical steps of creating public art projects including proposal writing, model building, oral presentations and fabrication. The large-scale sculptures are displayed throughout campus during the final weeks of the spring semester, including commencement. Critiques, field trips and writing assignments. Text book required. Laboratory fee due at time of registration. May be repeated. Prerequisite: ARTS 436, or consent of instructor.

ARTS 440 ADVANCED ETCHING AND WOODCUT (1-4)

Advanced studio problems in relief and intaglio printmaking methods, including relief, engraving, photo-engraving, monotype, and etching. May be repeated for credit up to 12 units. Laboratory fee payable at registration. Prerequisite: ARTS 340.

ARTS 442 ADVANCED LITHOGRAPHY (2-4)

Advanced studio work in the lithography medium. Work with images on stone or metal plates involving black and white and some color processes, printing of limited editions and single proofs. Lecture, demonstration, and laboratory work. May be repeated for credit up to a maximum of 12 units. Laboratory fee payable at time of registration. Prerequisite: ARTS 342.

ARTS 457 ADVANCED PHOTOGRAPHY (3)

Advanced Photography focuses on the development and resolution of a cohesive body of work for use in online and print portfolios. Lab fee payable at time of registration. May be repeated for credit. Prerequisite: ARTS 310 or consent of Photography Director or Department chair

ARTS 458 ADVANCED MEDIA ARTS (3)

Advanced Media Arts is a studio course that introduces concepts and techniques of contemporary extended photographic practice, including basic video, installation and experimental art techniques as well as cross-disciplinary possibilities and contextual issues in the presentation of art works. Lab fee payable at time of registration. May be repeated for credit. Prerequisite: ARTS 310 or consent of Photography Director or Department Chair

ARTS 465 B.F.A. SEMINAR (1-4)

A studio seminar class designed specifically for B.F.A. students. Advanced topics in art and aesthetics will be examined through selected readings, writing, and discussion. In-depth critiques of each student's work will be held. B.F.A. students only.

ARTS 466 B.F.A. PORTFOLIO ARTISTS' PRACTICES (3)

Professional issues will be addressed in the preparation and presentation of a B.F.A. exhibition that will be reviewed and critiqued by the studio faculty. Students will be expected to give an oral defense of their work, prepare a statement, a curriculum vitae, and document their work in preparation for graduation. B.F.A. students only.

ARTS 470 ART: THEORY AND PRACTICE (2-4)

Advanced seminar course combining lecture/activity. Emphasis placed on development of proposals for works of art, in response to slide lectures and assigned readings, and exploration of new methods and materials outside student's usual medium. Participation in group critiques is an essential element of course. Lab fee. Prerequisite: instructor(s) consent.

ARTS 482 ADVANCED MONOTYPE (1-4)

An advanced studio course emphasizing single and multiple images derived from a variety of original sources, including painting, hand-painted prints, chine colle, and multiple manipulated prints. Up to 3 upper-division units may be applied toward a printmaking or painting emphasis. Laboratory fee payable at registration. Prerequisite: ARTS 382.

ARTS 491 VISITING ARTISTS' LECTURE SERIES (1)

The Visiting Artist Lecture Series is a Credit / No Credit course, which brings prominent contemporary artists to Sonoma State University to present their creative and scholarly work on a weekly basis. Class discussions will occur on weeks a speaker is not scheduled. Attendance to all lectures is mandatory and a paper is required at the end of the semester to receive course credit. Satisfies GE, category C1 (Fine Arts). This course may be repeated for credit but only 1 unit of C1 credit will be awarded.

ARTS 492 B.A. PORTFOLIO ARTISTS' PRACTICES (1-3)

Professional issues will be addressed in the preparation and presentation of a portfolio of student work. Students will be expected to give an oral defense of their work, prepare a statement, a curriculum vitae, and document their work in preparation for graduation.

ARTS 495 SPECIAL STUDIES (1-4)

For upper-division Art majors only. Consult department faculty in your area of emphasis. The University contract form with required signatures of student, instructor, faculty advisor, and department chair must be completed before registering for special studies units. Not applicable to the Art minor or non-art major. May be repeated for credit up to 8 units.

ARTS 496 DIRECTED FIELD RESEARCH EXPERIENCE (1)

Travel to galleries and museums in various North American cities. Individual and group participation required. Destinations vary; consult semester schedule for specifics. May be repeated and may be applicable to requirements in the major. Fee required at time of registration. Prerequisites: major status and advanced standing or consent of instructor.

ARTS 497 DIRECTED FIELD RESEARCH EXPERIENCE (1-4)

Travel to various destinations, which vary depending on type of field research being offered; consult semester schedule for specifics. Students will be responsible for a field research project(s), based on the trip. Fee required at time of registration. Prerequisites: major status and advanced standing or consent of instructor.

ARTS 498 SELECTED TOPICS IN ART STUDIO (1-4)

A studio course dealing with intensive study of a particular art topic, which may vary by semester. May be repeated and applicable to requirements for a major in Art. Consult advisor and department chair. Prerequisites: major status, advanced standing, and instructor consent.

ARTS 499 INTERNSHIP (1-4)

Students in the internship program will have an opportunity to gain practical skills by working in a variety of gallery and museum situations in the private and public sectors. Credit will be given for completion of 3 hours of work per week, per unit, by prior arrangement with department coordinator. Prerequisite: consent of instructor. A-F or Cr/NC. Course may be repeated for credit.

ARTS 595 SPECIAL STUDIES (1-4)

Prerequisites: graduate standing and consent of instructor.

Astronomy (ASTR)

ASTR 100 DESCRIPTIVE ASTRONOMY (3)

Lecture, 3 hours. A survey designed primarily for non-science majors, including an introduction to historic astronomy, Newton's Laws, gravitation, atomic structure, light, and telescopes. Take a tour of the solar system, learn about space flight, stars and stellar evolution, galaxies, and the structure of the universe. Satisfies GE, Area B1 or B3 (Physical Sciences).

ASTR 150 ASTRONOMY FOR SCIENTISTS (3)

Lecture, 3 hours. A survey of astronomy designed primarily for science majors, this course presents the physics and mathematics underlying modern astronomy. The course covers the composition and nature of the universe - from our own solar system, to stars and stellar evolution, interstellar matter, galaxies, and clusters of galaxies. Pre or co-requisite: Math 160, Math 161 or MATH 161X, or consent of instructor. Fulfills GE Area B1 or B3.

ASTR 231 INTRODUCTION TO OBSERVATIONAL ASTRONOMY (2)

Lecture, 1 hour; laboratory, 3 hours. Principles of astronomical measurement techniques with field and laboratory studies of astronomical objects. Identification of constellations; astronomical coordinates; use of the telescope; and techniques in imaging, photometry, and spectroscopy. Satisfies GE, Area B1 or B3 (Physical Sciences) and GE laboratory requirements. Prerequisite: previous or concurrent enrollment in ASTR 100.

ASTR 303 LIFE IN THE UNIVERSE (3)

Lecture, 3 hours. The course is an appraisal of the possibilities and prospects for life in the universe and travel beyond our Solar System. Topics to be covered include: the nature of life, habitability of Earth and other worlds within our Solar System, detection of planets beyond our Solar System, the search for life beyond Earth, and space travel. This course emphasizes the scientific method, especially the development of scientific theories founded in observational and experimental evidence. Satisfies GE, category B3 (Specific Emphasis in Natural Sciences). Prerequisite: ASTR 100 or another course in Astronomy.

ASTR 305 FRONTIERS IN ASTRONOMY (3)

Lecture, 3 hours. A survey of recent developments in astronomy and how these breakthroughs are made: the discovery of planets orbiting other stars; the explosive deaths of stars and the creation of neutron stars and black holes; and the study of the origin and fate of the Universe, including the search to understand dark matter and dark energy. Satisfies GE, Area B3 (Specific Emphasis in Natural Sciences). Prerequisite: ASTR 100 or another course in Astronomy.

ASTR 331 ASTRONOMICAL IMAGING (2)

Lecture, 1 hour; laboratory, 3 hours. An introduction to the methods and techniques of astronomical imaging. The course will offer a practical approach to using charged-coupled device (CCD) detectors and computer-controlled telescopes to obtain images of the moon, planets, stars, and nebulae. Topics include telescope control, planning observing programs, identifying astronomical objects, determining image sizes and exposure times, and image processing techniques. Prerequisite: ASTR 231 or consent of instructor.

ASTR 350 COSMOLOGY (3)

Lecture, 3 hours. A survey of what we know about the Universe and how scientists have learned it. Topics include the Big Bang, cosmic inflation, surveys of galaxies, the origin and evolution of structure in the Universe, dark matter, and dark energy. Satisfies GE Area B3 (Specific Emphasis in Natural Sciences). Prerequisite: ASTR 100.

ASTR 380 ASTROPHYSICS: STARS (3)

Lecture, 3 hours. A quantitative study of the structure and evolution of stars, including stellar interiors and atmospheres, nucleosynthesis and late stages of stellar evolution. Prerequisites: PHYS 314 and MATH 211.

ASTR 390 ASTROPHYSICS: GALAXIES AND COSMOLOGY (3)

Lecture, 3 hours. A quantitative study of: the nature of galaxies, their formation and evolution; the extragalactic distance scale; the structure of the Universe; active galaxies; cosmology and the early Universe. Prerequisites: PHYS 314 and MATH 211.

ASTR 396 SELECTED TOPICS IN ASTRONOMY (1-3)

Lecture, 1-3 hours. A course of lectures on a single topic or set of related topics not ordinarily covered in the Astronomy curriculum. The course may be repeated for credit with a different topic. Prerequisite: consent of instructor.

ASTR 482 ADVANCED OBSERVATIONAL ASTRONOMY (2)

Lecture, 1 hour; laboratory, 3 hours. A study of advanced observing techniques including imaging and spectroscopy. Emphasis on the use of telescopes, instrumentation, and data processing including photometry and astrometry. Discussion of techniques across the electromagnetic spectrum. Statistical treatment of data and error analysis. Prerequisites: ASTR 231, or PHYS 214 or PHYS 210B, or consent of instructor.

ASTR 492 INSTRUCTIONAL DESIGN PROJECT (2)

A directed project to develop at least one laboratory experiment and/or classroom activity that teaches basic concepts in undergraduate Astronomy. Both written and oral presentations (including a demonstration of the experiment or activity) will be required. Prerequisites: PHYS 214 and 216 or PHYS 210B and 209B; ASTR 231. Course may be repeated for credit.

ASTR 495 SPECIAL STUDIES (1-4)

The Department of Physics and Astronomy encourages independent study and considers it to be an educational undertaking. Students wishing to enroll for special studies are required to submit to their supervising faculty members proposals which outline their projects and exhibit specific plans for their successful completion. May be repeated for credit up to 8 units.

ASTR 497 UNDERGRADUATE RESEARCH IN ASTRONOMY (2)

Supervised research in an area of astronomy that is currently under investigation by one or more members of the Physics and Astronomy Department's faculty. This course may be repeated for up to 6 units of credit. Prerequisites: junior-standing and consent of instructor.

Biology (BIOL)

BIOL 110 BIOLOGICAL INQUIRY (4)

Lecture, 3 hours; laboratory, 3 hours. A factual and conceptual exploration of the living world through presentation, student inquiry, and laboratory exercises. Topics include the bases of life; organization of living systems, from molecules to ecosystems, and their interactions; and genetics, evolution, and ecology. Satisfies GE, Area B2 and the GE laboratory science requirement. Not applicable to the Biology major.

BIOL 115 INTRODUCTION TO BIOLOGY (3)

Lecture, 3 hours. The unifying concepts of biology. Topics include the chemical and physical basis of life; cellular structure and function; molecular and Mendelian genetics; reproduction, development, structure, and function of representative plants and animals; and evolution and ecology. Satisfies GE, Area B2. Not applicable to the Biology major.

BIOL 130 INTRODUCTORY CELL BIOLOGY AND GENETICS (4)

Lecture, 3 hours; laboratory 3 hours. One of two courses in the lower-division series required of biology majors. Provides an introduction to structure, molecular processes and physiology of cells, as well as mechanisms of inheritance and evolution. Satisfies GE, category B2 and GE lab requirement. Concurrent enrollment in CHEM 115A is recommended.

BIOL 131 BIOLOGICAL DIVERSITY AND ECOLOGY (4)

Lecture, 3 hours; laboratory 3 hours. One of two courses in the lower-division series required for biology majors. Introduces the extraordinary diversity of life, evolutionary relationships between groups of organisms, and principles of ecology. Satisfies GE category B2 and GE lab requirement. Completion of BIOL 130 is recommended.

BIOL 220 HUMAN ANATOMY (4)

Lecture, 3 hours; laboratory, 3 hours. Survey of the body systems. Designed for pursuing careers in the allied health professions. Satisfies GE, Area B3 and the GE laboratory requirement. Prerequisite: BIOL 110 or BIOL 115 or BIOL 130 and 131.

BIOL 224 HUMAN PHYSIOLOGY (4)

Lecture, 3 hours; laboratory, 3 hours. An integrated examination of the human body as an efficient system maintained by a complex of interacting, homeostatic mechanisms. Includes fundamental principles of function of major organ systems. Designed for those pursuing careers in the allied health professions. Satisfies GE Area B3 and the GE laboratory requirement. Prerequisites: BIOL 110 or BIOL 115 or BIOL 130 and 131 and CHEM 115A/B or CHEM 125A/B or CHEM 110 or CHEM 105 required.

BIOL 240 GENERAL MICROBIOLOGY (4)

Lecture, 3 hours; laboratory, 3 hours. An introduction to the organization and characteristics of microorganisms, including bacteria, fungi, protists, and viruses. Topics include their role in agriculture, industry, and disease processes. Prerequisites: BIOL 110 or 115 or BIOL 130 and 131, and CHEM 115AB or CHEM 105.

BIOL 308 ENVIRONMENTAL TOXICOLOGY (3)

Lecture, 3 hours. Information needed to formulate a philosophy of chemical use: the nature of the interaction of toxicants and living organisms; categories of toxicological activity; toxicological evaluation and environmental monitoring; and governmental regulations and procedures. Satisfies GE Area B3. Prerequisite: BIOL 110, 115, or 130 and 131. Teaching mode face-to-face, online, or hybrid.

BIOL 309 BIOLOGY OF CANCER (3)

Lecture, 3 hours. Biological, clinical, environmental, and psychosocial aspects of cancer explored through the perspectives of medical researchers, physicians, patients, and health educators. This lecture series is intended for students of all majors, for those in the health professions, and for the general public. It is designed so that everyone (regardless of scientific background) will benefit. Satisfies GE Area B3. Prerequisite: BIOL 110 or BIOL 115, or BIOL 130 and 131.