



COURSES OF INSTRUCTION

Sections of courses are listed in alphabetical order, by the prefix of the academic discipline. Credit notations on the far right are in the pattern 3-0-3. The first number is the number of lecture hours (or equivalent) each week; the second number is the number of laboratory hours (or equivalent) each week; the third number is the number of semester hours credit. The suffix H designates Honors Courses; the suffix K designates courses in which a laboratory is included; the suffix L designates a lab course that is separate.

ACCT: ACCOUNTING

- ACCT 2101 Principles of Accounting I** 3-0-3
An introduction to financial accounting that emphasizes accounting's role in business and society. The course develops an understanding of the financial statements of economic entities.
- ACCT 2102 Principles of Accounting II** 3-0-3
Prerequisite: ACCT 2101 with a grade of C or better. An introduction to managerial accounting. Emphasis is placed on understanding internal accounting documents and analyzing these documents to render logical and economically feasible decisions.
- ACCT 3201 Intermediate Accounting I** 3-0-3
Prerequisite: ACCT 2102. An examination of the authoritative standards, theoretical foundations, and practical concerns that underlie generally accepted accounting principles for financial accounting and reporting.
- ACCT 3202 Intermediate Accounting II** 3-0-3
Prerequisite: ACCT 3201. A continuation of the topics begun in ACC 3201.
- ACCT 3240 Managerial Accounting** 3-0-3
Prerequisite: ACCT 2102. A continuation of the concepts, practices, and utilization of internal accounting information for management decision making. The course looks particularly at relevant costs, segmental analysis, budgeting, activity based costing and cost behavior analysis.
- ACCT 3400 Cost Accounting** 3-0-3
Prerequisite: ACCT 2102. A study of product cost determination. Inventory valuation, planning, control, and financial reporting are emphasized in this course.
- ACCT 3900 Not-For-Profit Accounting** 3-0-3
Prerequisite: ACCT 2102. A study of fund theory and practice. Accounting for governmental entities, educational organizations and other not-for-profit entities are examined.

- ACCT 4220 Advanced Accounting** 3-0-3
Prerequisite: ACCT 3202. Concepts and techniques necessary for the preparation of consolidated financial statements and accounting for partnerships. The course is primarily designed as an intensive study of working papers necessary to integrate the financial information of multiple legal entities into a single set of statements reflecting the single economic entity.
- ACCT 4410 Accounting Information Systems** 3-0-3
Prerequisite: ACCT 3201 and ACCT 3400. An introduction to the use of accounting information systems within an organization. The control and communication of files and databases are studied. Applications requiring the use of spreadsheets, relational databases and general ledger software applications are used in this course.
- ACCT 4500 Individual Income Tax** 3-0-3
Prerequisite: ACCT 2102. Introduction to federal income taxes including the elements of income, income exclusions, tax credits, capital gains and losses. Emphasis is placed on understanding the executive, legislative and judicial aspects of the tax law. Research is required.
- ACCT 4800 Introduction to Operational Auditing** 3-0-3
Prerequisite: ACCT 3202 and ACCT 3400. Introduction to operational auditing from a management perspective. Emphasis is placed on auditing for efficiency and effectiveness, including measuring and managing risk and performance, evaluating business activities and processes, and fraud investigation.
- ACCT 4850 Accounting Internship** 3-0-3
Prerequisite: Faculty approval. The application of academic accounting skills and values in an employment situation. A research project, approved by a faculty member and the employer, is required.
- ACCT 4990 Directed Study in Accounting** 3-0-3
Prerequisite: Faculty approval. A special project undertaken by the student. The project is guided by a faculty member and culminates in a research report.

AFAM: AFRICAN AMERICAN STUDIES

- AFAM 2020 Race, Class, and Gender** 3-0-3
Also offered as WMST 2020. An exploration of social class, gender and racial/ethnic relations as distinct, but linked dimensions of social inequality. Includes an examination of the historic underpinnings of discrimination by race, class and gender and the present status of these issues.
- AFAM 3000 Introduction to African American Studies** 3-0-3
An introduction to key concepts, thematic concerns, and the theoretical and philosophical bases for African American Studies. To include perspectives and strategies for the analysis and understanding of the impact of African Americans on the socio-economic, cultural, political, and religious developments of America.

- AFAM 3220 Studies in African American Literature** 3-0-3
Also offered as ENGL 3220. Prerequisite: ENGL 2110, 2120, 2130, or 2140.
 A study of selected topics in African American literature. May be repeated, but only 3 hours may be counted toward distribution requirements for the AFAM minor.
- AFAM 3320 Studies in African Literature** 3-0-3
Also offered as ENGL 3320. Prerequisite: ENGL 2110, 2120, 2130, or 2140.
 A study of selected topics in African literature. May be repeated, but only 3 hours may be counted toward distribution requirements for the AFA minor.
- AFAM 4231 African American History to 1865** 3-0-3
Also offered as HIST 4231. The history of the African Americans from their origin in Africa to the end of slavery in the U.S., with emphasis on their economic life and social thought.
- AFAM 4232 African American History Since 1865** 3-0-3
Also offered as HIST 4232. The history of the African American struggle for equality after emancipation, with special focus on the problems of black leadership from Frederick Douglass to the Black Panthers.
- AFAM 4511 Precolonial Africa** 3-0-3
Also offered as HIST 4511. An analysis of the 8000-year-old cultures of the Nile Valley, including Egypt, Nubia, and Kush; West Africa and its contacts with the Middle East and Europe; the East African city-states and their contacts with India.
- AFAM 4512 Modern Africa** 3-0-3
Also offered as HIST 4512. Explores the European colonization of Africa and the African response. The course also examines the emergence of African nationalism and the problems of creating new states.
- AFAM 4700 African American Studies Seminar** 3-0-3
Prerequisite: AFAM 3000 and at least two AFAM 3000 level course electives.
 An interdisciplinary seminar on selected topics, providing a capstone experience.

ANTH: ANTHROPOLOGY

- ANTH 1102 Introduction to Anthropology** 3-0-3
 An introduction to the origins, evolution, and present-day adaptations of the world's peoples. Emphasis on the study of fossils, archaeological remains, and culturally diverse life ways.
- ANTH 1102H Introduction to Anthropology, Honors** 3-0-3
 Fundamentals of anthropology, with particular focus on such disciplinary sub-fields as physical anthropology, archaeology, and cultural anthropology. Emphasis is on the employment of the anthropological perspective, and the application of anthropological concepts and models to contemporary issues and problems.
- ANTH 3010 Physical Anthropology** 3-0-3
Prerequisites: ANTH 1102 or permission of instructor. The study of the biological origins of the human species. An emphasis is placed on human evolution, genetics, primatology, and the interaction between culture and biology.

- ANTH 3020 Culture and Personality** 3-0-3
Prerequisites: ANTH 1102 or permission of instructor. A cross-cultural survey of the relationship between culture and personality. Attention is directed to the interplay of cultural and social variables in the development of identity. Specific foci include mental illness, aggression, altered states of consciousness, and individual adaptation to social change.
- ANTH 3030 Archaeological Techniques** 2-2-3
Prerequisite: ANTH 1102 or permission of instructor. An introduction to the theory and techniques of archaeology as well as their practical application. Students will participate in fieldwork, including archaeological survey, excavation, and laboratory analysis.
- ANTH 3040 Cultural Anthropology** 3-0-3
Prerequisite: ANTH 1102 or permission of instructor. An introduction to the nature of cultural anthropology through a cross-cultural analysis of cultural systems and social organizations. Specific theoretical approaches are applied to case materials from cultural systems around the world including those within our society.
- ANTH 3070 Magic, Religion, and Witchcraft** 3-0-3
Prerequisite: ANTH 1102 or permission of instructor. A cross-cultural survey of varieties of religious expression. Emphasis is placed on ritual, mythic, and symbolic dimensions of religion and the way religion interrelates with other social institutions.
- ANTH 3120 Archaeology of Eastern North America** 3-0-3
Prerequisites: ANTH 1102 or permission of instructor. A study of cultural development in eastern North America, employing archaeological, ethnohistorical, and historical perspectives. The temporal boundaries are the arrival of humans in the region until the nineteenth century. Native American and Euroamerican culture history will be explored.
- ANTH 3130 Indians of North America** 3-0-3
Prerequisites: ANTH 1102 or permission of instructor. A survey of the lifestyles of North American Indians following contact with Europeans. Groups from all regions of North America are included, and the course examines native lifestyles at particular points in time. Primary emphasis is on environmental adaptation and economy of each group; in addition, social and political organization, religion, material culture, arts, and other aspects of culture are discussed.
- ANTH 3160 Experimental Archaeology** 1-4-3
Prerequisite: ANTH 1102 or permission of the instructor. An introduction to primitive technology with an emphasis on recreating past tools and utensils in an attempt to understand past lifeways. Lab fee required.
- ANTH 3500 Anthropological Theory** 3-0-3
Prerequisites: SOCI 3000. An historical survey of the development of anthropological theory, with a primary focus on the anthropological perspective and including an introduction to general social science. Students will develop a competent review of literature in an area of anthropology.

- ANTH 3510 Anthropological Research** 3-0-3
Prerequisites: SOCI 3000. An introduction to the concepts and methods of anthropological research. The emphasis is on developing familiarity with the various research strategies employed by cultural anthropologists and their application. Course work culminates with the design of a research proposal.
- ANTH 3910 Anthropology of Law** 3-0-3
Prerequisite: ANTH 1102 or permission of instructor. The study of legal systems and conflict resolution styles in nonWestern societies. The varieties of legal understandings and procedures are explored, and characteristics of specific legal processes are related to other institutional spheres, such as economics, kinship, and religion.
- ANTH 4040 Sociocultural Change** 3-0-3
Prerequisite: ANTH 1102 or permission of instructor. An examination of sociocultural changes occurring in tribal and peasant societies in response to modernization. Particular attention is focussed on the articulation of these societies with the larger national and global systems, the resulting inequalities, types of social and cultural disruptions experienced, and the range of responses to change.
- ANTH 4540 Internship in Anthropology** 1-0-1 to 3-0-3
Prerequisites: Permission of advisor and Internship Coordinator. **Must be taken concurrently with SOCI 4990 Senior Capstone.** Supervised, practical experience in an appropriate community agency; an opportunity for students of demonstrated maturity and judgment to discover the integration between theory and practice and make applications. Graded on satisfactory/unsatisfactory basis.
- ANTH 4900 Special Topics in Anthropology** 1-0-1 to 3-0-3
Prerequisites: ANTH 1102 or permission of instructor. Topics vary. Designed to provide an intensive study in a current topic relevant to anthropology. May be repeated for credit.
- ANTH 4980 Directed Study in Anthropology** 1-0-1 to 3-0-3
Prerequisites: ANTH 1102 or permission of instructor. Study in an area or subject not normally found in established courses offered by the department; may also allow the student to explore in more detail a topic which is normally covered by the department. May be repeated for credit.

ARAP: ART APPRECIATION

- ARAP 1100 Introduction To The Visual Arts** 3-0-3
 An introductory survey of world art from prehistory to the contemporary period. Credit for this course may not be used to satisfy requirements for area F or senior curriculum requirements for ART or ARED majors.
- ARAP 1100H Honors Introduction To The Visual Arts** 3-0-3
 An introductory survey of world art, at the Honors level, from prehistoric to the contemporary period, set in the context of historical, political, economic, and social events.

ARED: ART EDUCATION

- ARED 2010L Introduction to Crafts** **0-6-3**
Prerequisite: ARST 2012L - Basic Design II or permission of the Department Head. An introduction to basic crafts techniques and media including glass, enamel, paper, fiber, and textile.
- ARED 2020K Art Education For Early Childhood
And Middle School Teachers** **3-0-3**
Prerequisites: CIED 2000 and PSYC 2700. The study of art education philosophies, goals, content, media, materials, and methods appropriate for all children, P-8th grade. Emphasis placed on Discipline-Based Art Education theory and activities. May not be used to satisfy requirements for the Art Education degree. Purchase of art materials is required.
- ARED 3010L Methods, Management, and Materials for
Art Education (P-12)** **0-6-3**
Prerequisite: ARED major and junior standing. Emphasis placed on the development of materials for instruction and preparation of professional materials including a resume. Senior exhibition experience is required. This course must be taken the same semester as ARED 4090 - Student Teaching. This is a studio course.
- ARED 3030K Creative Problem Solving and Visual Thinking Techniques** **0-6-3**
The study of creative behaviors. Theories of creativity, creative problems solving, blocks to creative behavior, and the relationship between creativity, cognition, and visual thinking are topics. Emphasis on strategies to enable creative behaviors. This is laboratory class and meets 6 hours per week.
- ARED 3040 Art Criticism and Aesthetic Inquiry** **2-0-2**
Prerequisite: Art Education major or permission of the department head. The study of the theories and practices of art criticism and aesthetic inquiry associated with art and art education.
- ARED 3050 Curricular and Assessment Models for Art Education (P-12)** **3-0-3**
Prerequisite: PSYC 3100. The study of curricular models and contemporary authentic assessment and evaluation approaches commonly associated with public school art education programs, P-12. Theoretical constructs and practical methods will be reviewed.
- ARED 4070K Seminar in Art Education (P-12)** **3-0-3**
Prerequisite: PSYC 3100. Taken with ARED 4090 - Student Teaching. Emphasis on professional expectations, instructional and curricular issues and problems found in the school setting. Senior exhibition experience is required.
- ARED 4080 Internship in Art Education** **3-0-3**
Prerequisite: ARED 3050, ARED 3010 or equivalent, and permission of the Department Head. Supervised art education teaching experience for individuals who have a degree, have passed PRAXIS II, and are under contract to a school system. Must be taken 3 consecutive semesters to earn 9 hours of credit. Graded "S" or "U". Leads to certification.

ARED 4090 Student Teaching in Art Education **0-0-9**
Prerequisite: Completion of the professional education sequence. The culminating professional experience scheduled during the final semester of University enrollment. The student is provided with a supervised teaching experience in any one of three settings, elementary school, middle school, or senior high school. Graded “S” or “U”.

ARHS: ART HISTORY

ARHS 1120 Fundamental Concepts in the Visual Arts **3-0-3**
Restricted to ART and ARE majors and art minor only. Survey of the major artistic achievements of world art from prehistory to the present. Discussion of the visual language of art and methods, techniques, approaches, and disciplines.

ARHS 3120 Special Topics in Art History **3-0-3**
Prerequisite: ARHS 3122. The study of unique or special content in the visual arts.

ARHS 3121 Survey of Art History I **3-0-3**
Prerequisite: ARAP 1100. A survey of world art from prehistory through Medieval.

ARHS 3122 Survey of Art History II **3-0-3**
Prerequisite: ARHS 3121. A survey of world art beginning with the Proto-Renaissance through the late 20th century.

ARHS 4120 Issues in Art Criticism **3-0-3**
Prerequisite: ARHS 3121. Selected issues from the discipline of art criticism.

ARHS 4130 Women Artists **3-0-3**
Prerequisite: ARHS 3122. The study of art forms created by women artists in western as well as non western cultures.

ARHS 4140 African American Art History **3-0-3**
Prerequisite: ARHS 3122. The study of the arts and crafts created by African American artists from the late 18th century up to the contemporary period.

ARHS 4150 Contemporary Art History **3-0-3**
Prerequisite: ARHS 3122. The study of contemporary art movements in the 20th century to the present day.

ARST: ART STUDIO

ARST 1011L Basic Design I **0-6-3**
A two-dimensional foundation design course in which the formal elements of art, principles of design, and color theory are introduced.

ARST 1021L Drawing I **0-6-3**
An introductory drawing course in which the concepts of composition, figure/ground, line, value, contour, gesture, linear and aerial perspective are studied using a variety of drawing techniques and media.

- ARST 2012L Basic Design II** **0-6-3**
 A three-dimensional foundation design course in which the formal elements of design are introduced along with the methods and safety procedures associated with the use of power equipment. All students must pass examination on power tool usage and safety before access to power tools and shop.
- ARST 2022L Drawing II** **0-6-3**
Prerequisite: ARST 1021L. A continuation of Drawing I. Further development of drawing techniques and methods for a personal and experimental approach. Abstract imagery, non-representational, and representational imagery will be explored.
- ARST 2030L Computers In Art** **0-6-3**
Prerequisite: ARST 1011L. An introductory course to develop basic skills in computer applications for the visual arts including: design, page layout, word processing, illustration, web access, web design, historical and critical methods, and information management.
- ARST 3023L Drawing III** **0-6-3**
Prerequisite: ARST 2022L. Interpreting the human figure through the use of a variety of media and techniques.
- ARST 3041L Painting I** **0-6-3**
Prerequisite: ARST 2022L or permission of the Department Head. An introduction to oil and acrylic painting techniques.
- ARST 3051L Printmaking I** **0-6-3**
Prerequisite: ARST 1011L and ARHS 1120. An introduction to basic printmaking processes and techniques including historical background and significance.
- ARST 3061L Ceramics I** **0-6-3**
Prerequisite: ARST 2012L or permission of the Department Head. A beginning level course including coil and slab construction, wheel throwing techniques, glazing processes, and kiln firing methods.
- ARST 3071L Photography I** **0-6-3**
 An introductory course with emphasis on the technical and aesthetic foundations of black and white photography including camera functions, darkroom processing procedures, and presentation of work. A 35mm camera with manual controls is required.
- ARST 3081L Sculpture I** **0-6-3**
Prerequisite: ARST 2012L or permission of Department Head. An introduction to additive, subtractive, replacement, and modeling sculpture techniques and methods. Attention will be given to three dimensional studies of human anatomy.
- ARST 3091L Graphic Design I** **0-6-3**
Prerequisite: ARHS 1120 and ARST 2030L. Introduction to aesthetic and technical problem solving. Emphasis is placed on contemporary commercial art production techniques.
- ARST 3092L Graphic Design II** **0-6-3**
Prerequisite: ARST 3091L. A continuation of Graphic Design I with emphasis on typography, package design, and preparation of portfolio comprehensives.

- ARST 3101L Jewelmaking I** **0-6-3**
Prerequisites: ARST 2012L. Introduction to the design and production of jewelry and small metals, emphasis is placed on techniques employing casting and fabrication processes. Students must pass a safety test on the use of equipment and materials.
- ARST 3111L Watercolor I** **0-6-3**
Prerequisite: Art Major or permission of the Department Head. The introduction to the technical aspects of aqueous media painting featuring transparent and opaque approaches.
- ARST 4024L Drawing IV** **0-6-3**
Prerequisite: ARST 3023L or permission of the Department Head. An advanced course in drawing with emphasis on personal stylistic development. May be repeated for credit.
- ARST 4042L Painting II** **0-6-3**
Prerequisite: ARST 3041L. An advanced course in painting using a variety of media and techniques. The emphasis is on the development of personal style. May be repeated for up to 9 hours of credit.
- ARST 4052L Printmaking II** **0-6-3**
Prerequisite: ARST 3051L. An advanced course which gives the student an opportunity for further expressive development and experimentation with a variety of printmaking processes. May be repeated for up to 9 hours of credit.
- ARST 4062L Ceramics II** **0-6-3**
Prerequisites: ARST 3061L or permission of the Department Head. An advanced course including sculptural construction methods and functional approaches. May be repeated for up to 9 hours of credit.
- ARST 4072L Photography II** **0-6-3**
Prerequisite: ARST 3071L. An advanced course in black and white photography with emphasis on image manipulation and experimental processes. A 35mm camera with manual controls is required. May be repeated for up to 9 hours of credit.
- ARST 4082L Sculpture II** **0-6-3**
Prerequisite: ARST 3081L or permission of Department Head. Intermediate work in additive, subtractive, replacement, and modeling sculpture techniques and methods.
- ARST 4083L Sculpture III** **0-6-3**
Prerequisite: ARST 4082L. The continuation of ARST 4082L with further experimentation with sculptural forms and techniques. May be repeated for up to 9 hours of credit.
- ARST 4093L Graphic Design III** **0-6-3**
Prerequisite: ARST 3092L. An advanced course in graphic design with emphasis on illustration and preparation of portfolio comprehensives.
- ARST 4094L Graphic Design IV** **0-6-3**
Prerequisite: ARST 4093L or permission of Department Head. An advanced computer graphics course. The student will concentrate on web page design and three dimensional modeling. May be repeated for credit.

- ARST 4095L Graphic Design V** **0-6-3**
Prerequisite: ARST 4094L or permission of Department Head. An advanced computer graphics course which concentrates on the creation of computer animation. May be repeated for credit.
- ARST 4102L Jewelmaking II** **0-6-3**
Prerequisite: ARST 3101L. Advanced techniques and further exploration of jewelry and small metals design. May be repeated for up to 9 hours of credit.
- ARST 4112L Watercolor II** **0-6-3**
Prerequisite: ARST 3111L or permission of the Department Head. Advanced aqueous media techniques and methods for the development of a personal expressive and/or communicative style. May be repeated for up to 9 hours of credit.
- ARST4140L Technical Problems in Art** **0-2-1 to 0-6-3**
Prerequisite: Junior or senior level standing in art. Designed for the advanced student capable of independent study for the purpose of solving studio problems and conducting creative research. Purchase of materials may be required. May be repeated for up to 3 hours of credit.
- ARST 4150L Directed Study in Art** **0-2-1 to 0-6-3**
Prerequisite: Approval of the supervising faculty member and Department Head. Students are provided the opportunity to explore individual problems in art. Purchase of art materials may be required. May be repeated for up to 3 hours of credit.
- ARST 4180L Workshop in Art** **0-2-1 to 0-6-3**
 Selected topics presented in an intensive workshop setting. Purchase of art materials may be required. May be repeated for up to 3 hours of credit.

ARTX: OTHER ART COURSES

- ARTX 1010K Art Fundamentals** **3-0-3**
 An introduction to the formal elements and design principles of art. Content includes hands-on experiences for students interested in but not majoring in art or art education. Credit for this course cannot be used to satisfy requirements for Area F or the senior curriculum for ART or ARE majors. Purchase of art materials is required.
- ARTX 3090K Advertising Layout** **3-0-3**
 An introduction to the fundamental principles and processes related to contemporary advertising, including basic desktop publishing skills.
- ARTX 4160 Internship in Art** **0-6-3**
Prerequisite: Art Major and permission of the department head. Supervised work experience through cooperatively planned practical job related to the student's degree. May be repeated for credit.
- ARTX 4170K Professional Preparation** **3-0-3**
Prerequisite: ARST 2030L. A capstone course for the production of a professional quality portfolio, preparation of works for exhibition, learning gallery procedures, planning for and participation in the senior exhibition.

AS: AEROSPACE STUDIES

AS 1000 Leadership Laboratory **0-1.5-0**

The AS 1000 Leadership Laboratory (LLAB) for 1000- and 2000-level students' courses includes a study of Air Force customs and courtesies, drill ceremonies, military commands, and Air Force opportunities. LLAB for 3000- and 4000-level students provides advanced leadership experiences that involve planning, organizing and executing cadet training activities, as well as preparing and presenting briefings and other oral and written communications.

AS 1001 Introduction to the Air Force Today I **1-0-1**

Co-requisite: AS 1000. A survey course designed to introduce students to the United States Air Force and Air Force Reserve Officer Training Corps. Featured topics include: mission and organization of the United States Air Force, officership, and professionalism, military customs and courtesies, Air Force opportunities and benefits, and written communications. A mandatory Leadership Laboratory (AS 1000) complements this course by providing cadets with followership experiences.

AS 1002 Introduction to the Air Force Today II **1-0-1**

Co-requisite: AS 1000. A survey course designed to introduce students to the United States Air Force and Air Force Reserve Officer Training Corps. Featured topics include: mission and organization of the United States Air Force, a macro history of the United States military, Air Force opportunities and benefits, group leadership projects, and oral communication. A mandatory Leadership Laboratory (AS 1000) complements this course by providing cadets with followership experiences.

AS 2001 The Air Force Way I **1-0-1**

Co-requisite: AS 1000. A survey course designed to facilitate the transition from ROTC cadet to Air Force ROTC officer candidate. Featured topics include: Air Force heritage and leaders, development of airpower doctrine from the invention of the airplane through the present, and written communications. A mandatory Leadership Laboratory (AS 1000) complements this course by providing cadets with their first opportunity to apply leadership experiences discussed in class.

AS 2002 The Air Force Way II **1-0-1**

Co-requisite: AS 1000. A survey course designed to facilitate the transformation from ROTC cadet to Air Force ROTC officer candidate. Featured topics include: Introduction to leadership, quality Air Force management tools, ethics and values, oral communication, and group leadership projects. A mandatory Leadership Laboratory (AS 1000) complements this course by providing cadets with their first opportunity to apply leadership experiences discussed in class.

AS 3001 Air Force Leadership and Management I **3-0-3**

Co-requisite: AS 1000. A study of leadership principles and perspectives, leadership ethics, and communication skills required of an Air Force junior officer. Case studies are used to examine Air Force leadership and management situations as a means of demonstrating and exercising practical application of concepts being studied. A mandatory Leadership Laboratory (AS 1000) complements this course by providing advanced leadership experiences in officer-type activities, giving the student an opportunity to apply leadership and management principles.

AS 3002 Air Force Leadership and Management II **3-0-3**

Co-requisite: AS 1000. A study of quality management fundamentals, professional knowledge, Air Force Doctrine, and communication skills required of an Air Force junior officer. Case studies are used to examine management situations as a means of demonstrating and exercising practical application of concepts being studied. A mandatory Leadership Laboratory (AS 1000) complements this course by providing advanced leadership experiences in officer-type activities, giving the student an opportunity to apply leadership and management principles.

AS 4001 National Security Affairs **3-0-3**

Co-requisite: AS 1000. An examination of the national security process, regional studies, advanced leadership ethics, Air Force doctrine, and current issues affecting military professionalism. Within this structure, emphasis is placed on refining communication skills. A mandatory Leadership Laboratory (AS 1000) complements this course by providing advanced leadership experiences in officer-type activities, giving the student an opportunity to apply leadership and management principles.

AS 4002 Preparation for Active Duty **3-0-3**

Co-requisite: AS 1000. This course is the final step in preparing an officer candidate for active duty. It includes examination of the military as a profession, officership, military justice, and civilian control of the military. It also familiarizes the student with the roles of various Air Force base agencies. Within this structure, emphasis is placed on refining communication skills. A mandatory Leadership Laboratory (AS 1000) complements this course by providing advanced leadership experiences in officer-type activities, giving the student an opportunity to apply leadership and management principles.

ASTR: ASTRONOMY

ASTR 1000 Introduction to the Universe **3-0-3**

Students may not receive academic credit for ASTR 1000 if they receive academic credit for ASTR 1010K or ASTR 1020K. A survey of the universe, examining the historical origins of astronomy; the motions and physical properties of the Sun, Moon, and planets; the formation, evolution, and death of stars; and the structure of galaxies and the expansion of the Universe.

ASTR 1010K Astronomy of the Solar System **3-2.5-4**

Astronomy from early ideas of the cosmos to modern observational techniques. The solar system planets, satellites, and minor bodies. The origin and evolution of the solar system. Three lectures and one night laboratory session per week.

ASTR 1020K Stellar and Galactic Astronomy **3-2.5-4**

The study of the Sun and stars, their physical properties and evolution, interstellar matter, star clusters, our Galaxy and other galaxies, the origin and evolution of the Universe. Three lectures and one night laboratory session per week.

- ASTR 2010 Tools of Astronomy** **0-2-1**
 An introduction to observational techniques for the beginning astronomy major. Completion of this course will enable the student to use the campus observatory without direct supervision. The student will be given instruction in the use of the observatory and its associated equipment. Includes laboratory safety, research methods, exploration of resources (library and Internet), and an outline of the discipline.
- ASTR 2020 The Planetarium** **0-2-1**
 Instruction in the operation of the campus planetarium and delivery of planetarium programs. Completion of this course will qualify the student to prepare and give planetarium programs to visiting groups.
- ASTR 3101-3102 Principles of Astronomy I, II** **3-2.5-4 each**
Corequisite for ASTR 3101: PHYS 2211. Prerequisite for ASTR 3102: ASTR 3101. A calculus-based course covering astronomical observations, analysis of celestial motions, and a study of the solar system in 3101, and covering the physics of the sun and stars, stellar evolution, galactic structure and the universe in 3102.
- ASTR 3220 Cosmology** **3-0-3**
Prerequisite: ASTR 1020 and PHIL 2010 or consent of the instructor. Also offered as PHIL 3220. A scientific and philosophical study of our perception of the universe, including the world views of Ptolemy, Copernicus, and Einstein.
- ASTR 4100 Observational Techniques** **2-2-3**
Prerequisite: ASTR 3101. Aspects of instrumental and observational astronomy including the optics of the telescope, spectroscopy, photography, photometry, electronics, CCDs, astrometrical problems, the operation of the observatory, and mathematical methods of data reduction.
- ASTR 4400 Physics of the Solar System** **3-0-3**
Prerequisite: ASTR 3101. Celestial mechanics; physical features of the sun, planets, moons, and other material in the solar system.
- ASTR 4410 Astrophysics** **3-0-3**
Prerequisites: PHYS 4401 and ASTR 3101. Radiative transfer in the stellar atmosphere, the interior structure of stars, stellar evolution, physical processes in gaseous nebulae, cosmology.
- ASTR 4800 Internship in Astronomy** **0-6-3 to 0-12-6**
 Active participation in research in astronomy, or in some field of science closely allied with astronomy, or work with a planetarium or museum which involves planetarium operations and programs. A daily log of activities, a report on the work done, and a research paper relating the work done to the field of astronomy are required.
- ASTR 4900 Special Topics in Astronomy** **1-0-1 to 4-4-6**
Prerequisite: ASTR 3101, consent of advisor and instructor. Topics to be assigned by instructor; may be taken more than once if topics are different; up to a total of 6 credit hours.

ASTR 4950 Directed Study in Astronomy

1-0-1 to 4-4-6

Prerequisites: ASTR 3101, consent of advisor, instructor, and department head. Study in area or subject not normally found in established courses offered by the department; may also allow student to explore in more detail and/or depth an area or subject covered by the department in astronomy; up to a maximum of 6 credit hours.

BIOL: BIOLOGY

BIOL 1010 Introduction to Biology: The Evolution and Diversity of Life **3-0-3**

Co-requisite: BIOL 1020L. An introduction to the diversity of life on Earth with a special emphasis on ecological and evolutionary processes and relationships.

BIOL 1020L Biodiversity Lab

0-2-1

Co-requisite: BIOL 1010. A laboratory course to accompany Biology 1010 emphasizing the diversity of life.

BIOL 1030 Introduction to Biology: Organismal Biology

3-0-3

Co-requisite: BIOL 1040L. An introduction to modern biology for the non-major with special emphasis on the processes involved in the development and maintenance of complex multicellular organisms.

BIOL 1040L Organismal Biology Lab

0-2-1

Co-requisite: BIOL 1030. A laboratory course to accompany Biology 1030 emphasizing the structure of multicellular organisms.

BIOL 1050 Human Biology

3-0-3

An introduction to the processes underlying the interactions of humans and the natural world. The topics to be covered include: physiological processes and their relationship to diseases; human genetics and biotechnology; the evolutionary basis of human structure and behavior, and the impact of humans on natural communities.

BIOL 1060 Introduction to Marine Biology

3-0-3

A non-technical study of marine and estuarine habitats emphasizing habitat types and biological community diversity. Topics of study will include, but are not limited to: organismal adaptations to a marine environment, bio-diversity and taxonomy of major groups of marine organisms, ecosystem types and characteristics and oceanic scale processes. Some voluntary overnight, weekend field trips with emphasis on collecting coastal fauna and study of Georgia coastal habitats.

BIOL 1070 Microbes and Humans

3-0-3

The study of microbes and humans with an emphasis upon infectious diseases and the role of microbes in food production, bioengineering, and industrial processes.

BIOL 1080 Conservation Biology

3-0-3

Basic biology underlying current issues in the conservation of rare species, native ecosystems, and biological diversity in general. Exploration of the nature and geographic distribution of biodiversity and threats to it, discussed in the context of ecological and population-genetic principles as well as socio-economic and political realities. Theory and case studies of different modes of preserving biodiversity