

(zoos and gardens vs. natural preserves) will be presented. The U.S. Endangered Species Act and Wilderness Preservation Act and C.I.T.E.S., among others, will be critically evaluated as models for government involvement in conservation. Prescriptions for sustainable development that does not further erode biodiversity will be discussed in light of current knowledge of genetics, population dynamics, and community and landscape ecology.

**BIOL 1090 Genetics and Human Affairs** **3-0-3**

Genetics and its human implications, past, present and future. A review of the basic patterns of inheritance using human traits. Emphasis will be given to calculation of recurrence risks by pedigree analysis, the human chromosome aberrations, the molecular aspects of inborn errors of metabolism, the human genome project, recombinant DNA technology and its application to gene therapy. Extensive use of computer technology and auto-tutorials will be made in the course.

**BIOL 1951H Honors Biology: Cellular Processes** **3-2-4**

An introduction to the fundamental principles of cell and molecular biology. Prokaryotic and eukaryotic development will focus on the relationship of structure and function. Cellular solutions to fundamental problems such as cell recognition, energy acquisition and conversion, genetic transmission, and cellular reproduction will be discussed. Taught in an enriched, discussion, and project-oriented classroom environment.

**BIOL 1952H Honors Biology: The Evolution and Diversity of Life** **3-2-4**

Introduction to modern biology with an emphasis on the diversity of life on Earth and a close examination of ecological and evolutionary processes and relationships. Taught in an enriched, discussion and project-oriented classroom environment.

**BIOL 2010 Introductory Biology for Majors** **3-3-4**

Introduction to biology for biology majors. Emphasis on basic concepts providing a foundation for advanced courses in biology. Concepts covered include the scientific method and experimental design, cellular structure and function, metabolism, reproduction, the nature of the gene and its action, and the mechanisms of evolution.

**BIOL 2230 General Botany** **3-3-4**

**Prerequisite:** BIOL 1010/1020L and 1030/1040L, or BIOL 2010, or the consent of the instructor. Survey of the plant kingdom with greatest emphasis on structure and function of angiosperms.

**BIOL 2270 General Zoology** **3-3-4**

**Prerequisite:** BIOL 1010/1020L and 1030/1040L, or BIOL 2010, or the consent of the instructor. Survey of the animal kingdom.

**BIOL 2651 Human Anatomy and Physiology I** **3-2-4**

Introduction to human anatomy and general physiological principles with emphasis on the following: cell and tissue organization, plus skeletal, muscular, nervous, and endocrine systems.

**BIOL 2652 Human Anatomy and Physiology II** **3-2-4**

**Prerequisite:** BIOL 2651. A continuation of human anatomy and general physiological principles with emphasis on the following: cardiovascular, lymphatic, respiratory, digestive, excretory, and reproductive systems, plus development.

- BIOL 2900 Microbiology in Health and Disease** 3-3-4  
**Prerequisite:** CHEM 1152K. An introductory microbiology course with emphasis upon the role played by microorganisms in health and disease. Open to students who plan to enter the health or allied health fields without a major in biology. Two 1.5 hour laboratory periods per week.
- BIOL 3000 Biostatistics** 2-4-4  
**Prerequisite:** MATH 1113, BIOL 2230 and BIOL 2270. An introduction to univariate and multivariate analysis of data. Laboratory work will allow students to collect data typical of the diverse disciplines in biology and subject those data to appropriate biometrical analyses, using a calculator or computer. Students will be required to keep a detailed lab notebook of the statistical methods studied and also complete a term project and a scientific report. Two 2-hour laboratory periods per week.
- BIOL 3100 Microbiology** 3-3-4  
**Prerequisite:** BIOL 2010 and CHEM 1212K. **Recommended:** CHEM 3402. Survey of microbiology covering eubacteria, archaebacteria, protozoa, fungi, algae, and viruses. Includes fundamental techniques, microbial physiology and genetics, biotechnology, medical applications, and applied microbiology. Two 1.5 hour laboratory periods per week.
- BIOL 3200 Genetics** 3-3-4  
**Prerequisite:** MATH 1113, BIOL 2230, BIOL 2270. A survey of modern genetics including: Mendelian and molecular genetics, as well as selected topics in population and quantitative genetics and genetic engineering. Laboratory will emphasize genetic analysis using live *Drosophila* and computer simulated crosses, chi-square analysis of progeny data, and application of these principles to laboratory analysis of genetic variation at the DNA level.
- BIOL 3300 Ecology** 3-3-4  
**Prerequisite:** BIOL 2230; BIOL 2270; CHEM 1212K with a grade of "C" or better. **Corequisite:** BIOL 3200 or consent of instructor. Basic ecological principles including behavior of individuals, populations, and communities in the context of their physical and biotic environments. Reviews population genetics and basic evolution; emphasizes scientific method, including the role of theory, hypothesis testing, statistical analysis and scientific writing. Observation and data collection mostly in the field within a variety of local ecosystems. One weekend field trip required.
- BIOL 3400 Plant Physiology** 3-3-4  
**Prerequisite:** BIOL 2230; CHEM 1211K. An introduction to basic principles of plant function including physical processes occurring in plants, water relations in whole plants and plant tissues, cell physiology and biochemistry, and growth and development.
- BIOL 3450 Vertebrate Physiology** 3-3-4  
**Prerequisite:** BIOL 2270; CHEM 1212K or permission of Instructor. Study of general physiological processes of vertebrates; emphasis at organ and organ system levels.

- BIOL 3500 Mycology** **3-3-4**  
**Prerequisite:** BIOL 2230; **Recommended:** BIOL 3100. Biology of fungi with emphasis on morphology, taxonomy, physiology, and ecology, includes the roles of fungi as both beneficial organisms and as causal agents in plant and animal diseases.
- BIOL 3550 Phycology** **3-4-4**  
**Prerequisite:** BIOL 2230. An introduction to the study of the algae, including taxonomy, phylogeny, physiology, and ecology. Laboratories will focus on the examination of live material, and will include methods for the isolation and culture of algae.
- BIOL 3600 Local Flora** **3-3-4**  
**Prerequisite:** BIOL 2230. A field-oriented study emphasizing identification, distribution, and ecology of locally occurring seed-bearing plants. Two or three weekend field trips are routinely scheduled.
- BIOL 3650 Taxonomy of Seed Plants** **3-3-4**  
**Prerequisite:** BIOL 2230. A survey of the principles of plant taxonomy that includes identification, nomenclature, evolution, and classification of seed-bearing plants. A systematic survey of plant families will be used with emphasis on local representatives.
- BIOL 3800 Invertebrate Zoology** **3-3-4**  
**Prerequisite:** BIOL 2270. A study of the morphology, phylogeny, and ecology of invertebrates.
- BIOL 3840 Entomology** **3-3-4**  
**Prerequisite:** BIOL 2270. Introduction to the study of insect biology including ecology, behavior, and taxonomy. Laboratory includes field observation, sampling and identification of local fauna.
- BIOL 3870 Parasitology** **3-3-4**  
**Prerequisite:** BIOL 2270. A study of the morphology, life cycles, and host-parasite relationships of representative protozoan and metazoan parasites. Human parasites are emphasized.
- BIOL 3900 Ichthyology** **3-3-4**  
**Prerequisite:** BIOL 2270. A study of the taxonomy, distribution, ecology, behavior and evolution of freshwater and marine fishes. One or two overnight field trips on weekends will be scheduled, with emphasis placed on the collection and preservation of specimens and the identification of habitats occupied by various species. Other field trips scheduled during normal laboratory periods.
- BIOL 3920 Herpetology** **3-3-4**  
**Prerequisite:** BIOL 2270. Introduction to the study of amphibians and reptiles, including anatomy, physiology, ecology, behavior, and classification coordinated with field study of local species.
- BIOL 3950 Ornithology** **3-3-4**  
**Prerequisite:** BIOL 2270. Lectures on morphology, evolution, ecology, behavior, and distribution of birds of the world. Lab emphasizes gross anatomy and identification of local species by sight and sound; mostly in the field. Five-day field trip to south Florida required; other Saturday trips offered.

- BIOL 3980 Mammalogy** **3-3-4**  
**Prerequisite:** BIOL 2270. Lectures emphasize morphology, evolution, ecology, zoogeography and classification of mammals of the world. Lab emphasizes gross anatomy and identification of mammal specimens, especially those found in North America. Four-day field trip to Blue Ridge Mountains (NC) required; Manatee dive (FL) offered.
- BIOL 4000 Topics in Biology I** **3-0-3**  
**Prerequisite:** BIOL 2230; BIOL 2270 or equivalent. Selected topics in the biological sciences. May be repeated if the topic is different. This course does not include a laboratory
- BIOL 4010 Topics in Biology II** **3-3-4**  
**Prerequisite:** BIOL 2230; BIOL 2270 or equivalent. Selected topics in the biological sciences. May be repeated if the topic is different. This course includes a laboratory.
- BIOL 4100 Morphology of Land Plants** **3-3-4**  
**Prerequisite:** BIOL 2230. Study of vegetative organization and reproductive cycles of bryophytes, pteridophytes and seed plants, which incorporates phylogenetic and ecological relationships.
- BIOL 4200 Plant Anatomy** **3-3-4**  
**Prerequisite:** BIOL 2230. Origin and development of tissues and organs of vascular plants. The laboratory stresses microtechnique including preparation of plant tissues in paraffin and plastic resins, sectioning, staining for specific components of plant tissues, and use of different optical methods.
- BIOL 4300 Comparative Vertebrate Anatomy** **3-3-4**  
**Prerequisite:** BIOL 2270 or approval of instructor. Anatomical and phylogenetic survey of representative vertebrate animals.
- BIOL 4350 Vertebrate Embryology** **3-3-4**  
**Prerequisite:** BIOL 2270. A study of the fertilization process and embryology of selected vertebrates with the greatest emphasis placed on chick development.
- BIOL 4400 Vertebrate Histology** **3-4-4**  
**Prerequisite:** 8 semester hours of senior college biology courses. Study of vertebrate histology with emphasis on the four primary tissues (epithelium, connective, muscle, and nerve). Laboratory work consists primarily of detailed microscopic study and drawings of tissues from prepared slides. Two 2-hour laboratory periods per week.
- BIOL 4500 Cell Biology** **3-3-4**  
**Prerequisite:** CHEM 3601L. The organization and function of cellular structures in animal, plant, and microbial systems. Emphasis on the molecular basis of metabolism, transport, mobility, nerve conduction, and the cell cycle.
- BIOL 4550 Immunology** **3-3-4**  
**Prerequisite:** BIOL 3100. Basic concepts of immunology, including antigen and antibody structure, the generation of diversity, the nature of T cell and B cell receptors, cellular cooperation, and the down regulation of immune responses.

- BIOL 4580 Molecular Biology of DNA** **3-3-4**  
**Prerequisite:** BIOL 2230; BIOL 2270; CHEM 1212K or consent of the instructor. A study of current principles of DNA structure and function. Laboratory emphasis will focus on modern techniques in DNA isolation, modification, and electrophoretic characterization.
- BIOL 4600 Evolution** **3-0-3**  
**Prerequisite:** BIOL 3200. Study of the theoretical aspects and the patterns and processes of micro-and-macro evolutionary change.
- BIOL 4650 Animal Behavior** **3-3-4**  
**Prerequisite:** BIOL 2270. Introduction to the major concepts of causation, development, evolution, and ecology of animal behavior, emphasizing the behavior of social animals.
- BIOL 4700 Limnology** **3-3-4**  
**Prerequisite:** BIOL 3300. A study of the physical, chemical, and biological aspects of fresh waters.
- BIOL 4830 Laboratory Practicum I** **0-3-1**  
**Prerequisite:** 12 hours of upper division biology and a GPA of 3.0. Individualized instruction and practice in assisting with the operation of biology laboratory exercises in classes that have one laboratory period per week. The student is assigned to one class section for one semester and is expected to assist with all class laboratories. The practicum is directed by the instructor of the class to which the student is assigned. Credits may not be used as biology electives. (Grade Satisfactory/Unsatisfactory).
- BIOL 4840 Laboratory Practicum II** **0-6-2**  
**Prerequisite:** 12 hours of upper division biology and a GPA of 3.0. Individualized instruction and practice in assisting with the operation of biology laboratory exercises in classes that have two or more laboratory periods per week. The student is assigned to one class section for one semester and is expected to assist with all class laboratories. The practicum is directed by the instructor of the class to which the student is assigned. Credits may not be used as biology electives. (Grade Satisfactory/Unsatisfactory).
- BIOL 4850 Biology Internship** **0-12-4**  
Open to students who qualify for internship programs in the biological sciences. Credit hours granted are agreed on cooperatively by the Biology Department and the internship supervisor, dependent on the nature of the program and academic work experience. Approval forms must be completed before registration. Grade (Satisfactory/Unsatisfactory) is assigned after submission of written report detailing the work done along with conclusion and evaluation. Only hours of internship credit may be applied toward graduation requirements. Credits may not be used as biology electives.
- BIOL 4900 Senior Seminar** **0-1-1**  
**Prerequisite:** BIOL 2230; BIOL 2270; completion of all required upper division biology courses. **Required of majors during senior year.** Discussion and reports of current topics in biology or related sciences. Demonstrated comprehension of topic and competence in communication skills, both oral and written, will receive equal emphasis in assigning course grade.

**BIOL 4950 Directed Study****0-12-4**

**Prerequisite: completion of all required upper-division biology courses with distinctly superior academic records and the consent of the instructor.** Limited to selected students with approval of instructor and Department Head. A specific problem to include supervised investigation and a report in format of biological journals.

**BUSA: BUSINESS ADMINISTRATION****BUSA 2100 Applied Business Statistics****3-0-3**

**Prerequisite: MATH 1111 or equivalent.** Applications of basic statistical concepts to business environments. Topics include data analysis, measures of central tendency and spread, probability applications, applications of selected distributions, regression, confidence intervals, and hypothesis testing. Business examples and applications are the foundation of instruction. Statistical software is used to analyze results.

**BUSA 2106 The Environment of Business****3-0-3**

Ethical, social, political, legal, and regulatory issues in the business environment. Topics focus on the conflicting rights and duties of individuals, organizations, and other factions in a domestic and global society that lead to the development of ethical awareness, social responsibility, and law.

**BUSA 3110 Business Law****3-0-3**

**Prerequisite: BUSA 2106.** An overview of the laws surrounding business transactions in the areas of contracts, sales, commercial paper, and secured transactions. Additional topics include agency, sole proprietorship, partnership, corporate law, consumer transactions, securities regulation, and property law.

**BUSA 3200 Practicum in Free Enterprise****3-0-3**

**Required for Students In Free Enterprise (SIFE) certification but open to all majors.** Supervised practical application of the principles of entrepreneurship and free enterprise. This course is designed to enhance team building, leadership, and communication skills by creating, organizing, and executing projects in the local and regional communities. This course provides opportunities for networking with community and business leaders.

**BUSA 4900 Business Policy****3-0-3**

**Prerequisites: BUSA 2106, MKTG 3050, MGNT 3250, and FIN 3350.** Capstone course required of business administration majors. Uses strategic management concepts to integrate functions of business. Emphasis on analysis of business situations, diagnosis of business problems and opportunities, and application of functional and strategic concepts to increase organization effectiveness.

## BVED: BUSINESS AND VOCATIONAL EDUCATION

- BVED 1100 Introduction to Business** **3-0-3**  
An overview of business principles and practices. Emphasis on developing an awareness of banking, marketing, finance, insurance, and organizational design. Will include ethical and human relations issues. Open to all majors.
- BVED 2000 Beginning Keyboarding** **3-0-3**  
Development of basic touch keyboarding skills. Introduction to formatting letters, research papers, and tables. Exemption test available.
- BVED 2050 Communications for the Workplace** **3-0-3**  
**Prerequisite:** ENGL 1102. Principles of effective oral and written communications. A thorough review of grammar, sentence and paragraph construction, punctuation, and writing techniques. Emphasis on the job-getting process.
- BVED 2400 Computer Technology for the Workplace** **3-0-3**  
Introductory, hands-on computer applications for development of workplace skills. Topics include word processing, databases, spreadsheets, communication, and presentation software. Exemption test available.
- BVED 3000 Intermediate Keyboarding** **3-0-3**  
**Prerequisite:** Grade of “C” or better in BVED 2000 or exemption. Continued emphasis on speed and accuracy building. Detailed coverage of business letters, memos, multiple-page reports, and miscellaneous documents. Exemption test available.
- BVED 3100 Computer Systems** **3-0-3**  
A general overview of computer hardware and networks. Emphasis is placed on developing basic technological expertise and leadership in administering computer technology in the workplace.
- BVED 3400 Applied Computer Technology** **3-0-3**  
**Prerequisite:** BVED 2400 or consent of instructor. Development of intermediate and advanced skills in the use of word processing, spreadsheets, databases, communications, and presentation software. Emphasis placed on creation of computer projects appropriate to the student’s major.
- BVED 3500 Word Processing** **3-0-3**  
**Prerequisite:** BVED 2400; prerequisite or co-requisite BVED 3000; or consent of instructor. Development of intermediate and advanced word processing skills for the workplace. Includes document formatting using graphics, fonts, macros, advanced merging techniques, columns, sorting, importing files, and tables.
- BVED 3600 Electronic Authoring and Multimedia** **2-0-2**  
Fundamental knowledge and skills necessary for the design and production of computer-based multimedia presentations and materials.
- BVED 3700 Desktop Publishing** **2-0-2**  
**Prerequisite:** BVED 2400 or consent of instructor. Development of desktop publishing concepts and their application to the modern office. Basic, intermediate, and advanced features of a page design program will be used to create various business-related documents.

- BVED 4000 Production Keyboarding** 3-0-3  
**Prerequisites:** Grade of “C” or better in both BVED 3000 and BVED 3500. Development of high production standards in document processing. Completion of advanced office simulation modules using current word processing software as a basis for reaching acceptable office standards.
- BVED 4050 Office Management** 3-0-3  
 Fundamentals of organizational behavior and management applied to the administration of the modern office. Topics include techniques of supervision, personnel problems, office productivity, ethics, and current legislation. Use of the case method in solving problems encountered in the office.
- BVED 4070 Office Applications** 2-0-2  
 Focus on two major aspects of office administration—business mathematics and records management. Hands-on experience with the electronic calculator used to perform common business mathematics problems. Experience with a records management simulation.
- BVED 4160 Administrative Office Procedures** 3-0-3  
**Prerequisites:** BVED 3000 and Senior Standing. Increase awareness of the role and scope of the administrative assistant position. Discuss basic and expanded job responsibilities, professionalism, and perform simulated activities.
- BVED 4300 Practicum in Business/Vocational Education** 0-0-3  
**Prerequisite:** Senior Standing and major in appropriate specialization; permission of the advisor must be obtained before registration.
- BVED 4310 Practicum in Business/Vocational Education** 0-0-3  
**Prerequisite:** Senior Standing and major in appropriate specialization; permission of the advisor must be obtained before registration.
- BVED 4320 Practicum in Business/Vocational Education** 0-0-3  
**Prerequisite:** Senior Standing and major in appropriate specialization; permission of the advisor must be obtained before registration.
- BVED 4400 Methods and Media for Teaching Accounting and Basic Business Subjects** 3-0-3  
**Prerequisite:** Senior Standing and completion of ACCT 2101, BUSA 2106, ECON 1500. Methods, materials, and evaluative procedures for teaching effectively in accounting and in the basic business subjects. Field experiences required.
- BVED 4500 Methods and Media for Teaching Business Skill Subjects** 3-0-3  
**Prerequisite:** Senior Standing and completion of BVED 4400 with a grade of “C” or better. Methods, materials, and evaluative procedures for teaching effectively in keyboarding, information processing, office education, and cooperative business education. Field experiences required.
- BVED 4600 Directed Study in Business/Vocational Education** 1-0-1 to 3-0-3  
**Prerequisite:** Consent of the department head. An opportunity for intensive individual study on an approved topic.
- BVED 4790 Student Teaching in Business and Vocational Education** 0-0-10  
**Prerequisite:** Completion of all coursework. **Corequisite:** BVED 4800.
- BVED 4800 Professional Practices Seminar** 2-0-2  
**Prerequisite:** Completion of all coursework. **Corequisite:** BVED 4790. Reflection on educational practices and refinement of concepts emanating from student teaching experience.