Southeastern Louisiana University

Biological Sciences

Head of the Department: *Professor Norton*
Professors: *Bond, Childers, Crother, Font, Guidroz, Hayes, Keddy, Nelson, Shaffer, Ziller*
Associate Professors: *Bancroft, Doucette, Dunn, Frederick, Howard, Stouffer, White*
Assistant Professors: *Cheek, Dardis, Guedry, Jackson, Miller, Pendarvis, Shockett*
Instructors: *Campo, Fontenot, Harper, Schwab*

General Biology | Botany | Microbiology | Zoology
Gulf Coast Research Laboratory | Louisiana Universities Marine Consortium
Horticulture

GENERAL BIOLOGY (GBIO & BIOL)

106 . [111] Introduction to Biological Principles I.
Credit 3 hours. A survey of the fundamental principles and concepts of biology including biochemistry, cell biology, metabolism, photosynthesis, cell division, reproduction, genetics, molecular biology, development, evolution, and ecology. This would be the first course in a sequence which satisfies the General Education Sequence requirement in the Natural Sciences. Three hours of lecture per week. Persons majoring in Biology may not use this course to fulfill their major requirements. However, it may be used to fulfill an elective requirement and in calculating cumulative averages.

109. Laboratory for Introduction to Biological Sciences I.
Credit 1 hour. Laboratory exercises will demonstrate the fundamental principles and concepts of biology including biochemistry, cell biology, metabolism, photosynthesis, cell division, reproduction, genetics, molecular biology, development, evolution, ecology, taxonomy, diversity, systems and architecture of these organisms. This laboratory may be taken with GBIO 106 if a curriculum requires four hours in the sciences. Two hours of lab per week. Persons majoring in Biology may not use this course to fulfill their major requirements. However, it may be used to fulfill an elective requirement and in calculating cumulative averages.

107. [112] Introduction to Biological Principles II.
Credit 3 hours. Prerequisites: GBIO 106 [111] or consent of the Department Head. A course which relates to the broad biological principles covered in GBIO 106 to specific groups of organisms. Emphasis will be placed on taxonomy, diversity, systems and architecture of these organisms. Three hours of lecture per week. Persons majoring in Biology may not use this course to fulfill their major requirements. However, it may be used to fulfill an elective requirement and in calculating cumulative averages.

110. Laboratory for Introduction to Biological Sciences II.
Credit 1 hour. Laboratory exercises will demonstrate the fundamental principles and concepts of biology including biochemistry, cell biology, metabolism, photosynthesis, cell division, reproduction, genetics, molecular biology, development, evolution, ecology, taxonomy, diversity, systems and architecture of these organisms. This laboratory may be taken with GBIO 107 if a curriculum requires four hours in the sciences. Two hours of lab per week. Persons majoring in Biology may not use this course to fulfill their major requirements. However, it may be used to fulfill an elective requirement and in calculating cumulative averages.

151. General Biology I.
Credit 3 hours. Prerequisites: Must be eligible to enroll in ENGL 101 and MATH 160 or 161. Principles of biology from the cellular level including biochemistry, cell biology, metabolism, photosynthesis, molecular biology, and genetics. This course is designed for students planning to major in biology or related discipline. Three hours lecture per week.

151H. General Biology I Honors.
Credit 3 hours. Prerequisites: Must be eligible to enroll in ENGL 101, MATH 160, and authorization by the Director of the Honors Program. Principles of biology from the cellular level including biochemistry, cell biology, metabolism, photosynthesis, molecular biology, and genetics. This course is designed for students planning to major in biology or related disciplines. Three hours lecture per week.

152. General Biology Laboratory I.
Credit 1 hour. Prerequisite: Registration for or prior credit for GBIO 151. Laboratory exercises for studying the principles of biology from the cellular level including biochemistry, cell biology, molecular biology, and genetics. Two hours of laboratory per week.

153. General Biology II.
Credit 3 hours. Prerequisite: Completion of GBIO 151 with a "C" or better. A systematic study of the structure, function, evolution, ecology and relationships of organisms including viruses, bacteria, protists, fungi, plants, and animals. This course is designed for students planning to major in biology or related discipline. Three hours lecture per week.

153H. General Biology II Honors.
Credit 3 hours. Prerequisite: Completion of GBIO 151 and authorization by the Director of the Honors Program. A systematic study of the structure, function, evolution, ecology and relationships of organisms including viruses, bacteria, protists, fungi, plants, and animals. This course is designed for students planning to major in biology or related discipline. Three hours lecture per week.

154. General Biology Laboratory II.
Credit 1 hour. Prerequisite: Registration for or prior credit for GBIO 153. Laboratory exercises for systematically studying the structure, function, evolution, ecology, and relationships or organisms including protists, fungi, plants and animals. Two hours of laboratory per week.

200. Cell Biology.
Credit 3 hours. Prerequisites: Eight hours of Biology and Chemistry 121-122 or equivalent. A basic course emphasizing the study of the energetics of biological systems, including the manner in which cells obtain and expend energy: the synthesis and degradation of macromolecules with emphasis on proteins and nucleic acids. Three hours of lecture per week.

203. Selected Topics in Biology.
Variable credit 1-4 hours. Prerequisite: Permission of the Department Head. Selected topics in biology that are new or unique and are not covered in existing courses. May be taken more than once for credit.

241. The Profession of Biology or Getting What You Came For.
Credit 1 hour. Prerequisite: Major in Biology and credits for GBIO 151, 153 and BIOL 152. An Internet-based course designed to guide students in making appropriate and informed career plans in the biological sciences. One hour of Internet learning per week. The course is graded pass/fail.

281. Environmental Awareness.
Credit 3 hours. Prerequisite: GBIO 153 and BIOL 154 or equivalent. A broad spectrum study of the ecological problems of our society. Three hours of lecture per week.

312. Genetics.
Credit 3 hours. Prerequisite: Six hours of mathematics, eight hours of chemistry, and GBIO 200. Recommend: Completion of Math 161 or 164 and 162 and one course of Organic Chemistry. A study of fundamental hereditary mechanisms and relationships. Emphasis is placed on nucleic acids and the molecular and cytological roles by which genes are distributed and expressed.

314. Genetics Laboratory.
Credit 2 hours. Prerequisite: Registration in or prior credit for General Biology 312. A series of experiments designed to illustrate the principles of genetics. Four hours of laboratory per week.

341. Professional Aspects of Biology.
Credit 1 hour. Prerequisite: Major in Biology, Junior status or permission of department head. An introduction to learning in biological sciences beyond the usual classroom or laboratory setting. Specific sections may allow students to gain experience in conducting research in designated specialties or focus on aspects of the philosophy, ethics, and history of scientific research. May be repeated for up to two credits. One hour of field learning per week.

377. Applied Biostatistics.
Credit 4 hours. Prerequisite: Mathematics 161 or consent of the Department Head. Basic concepts of biostatistics and sampling strategy; measures of central tendency and dispersion; Z, t, chi-square, and F distributions; test of hypothesis, error rates, and maximizing power; analysis of variance and regression. Strong emphasis on, and many examples of, field and laboratory oriented biological research problems. Three hours of lecture and two hours of laboratory per week.

395. General Ecology.
Credit 3 hours. Prerequisite: Two semesters of biological sciences. The biology of ecosystems: energy, patterns of ecosystems, and populations, interspecies interactions, diversity and development. Three hours of lecture per week.

404/504. Ecological Methods.
Credit 3 hours. Prerequisite: Credit for General Biology 377 or equivalent and credit for General Biology 395. An introduction to exploratory and experimental ecology with an emphasis on experimental design, sampling strategy, ecological indices, population dynamics, and simulation modeling. Two hours of lecture and two hours of laboratory per week.

405/505. Evolutionary Biology.
Credit 4 hours. Prerequisite: 12 hours of biology and junior standing or consent of instructor and Department Head. Knowledge of evolutionary concepts is fundamental to the understanding of biology. The theory of evolution unifies all of the disparate disciplines included within the life sciences. Microevolution explores processes occurring at or below the level of species, including mechanisms of inheritance, reproductive isolation, and speciation. Macroevolutionary concepts operating above the species level include palaeontology, biogeography, systematics, phylogeny, and an understanding of human origins. Four hours of lecture per week.

406/506. Wetland Ecology.
Credit 4 hours. Prerequisite: Twelve hours of Biology and Junior standing. A study of wetland ecosystems considering productivity and salinity variations with an emphasis on the interface of aquatic and terrestrial environments. Two hours of lecture and four hours of laboratory per week.

439/539. Introduction to Fresh Water and Estuarine Biology.
Credit 4 hours. Prerequisites: GBIO 153 and BIOL 154 or equivalent and Junior standing or consent of the Department Head. A consideration of fresh water lakes and streams and estuaries as biological habitats and of the organisms which inhabit these environments. Attention will be given to limnology and the ecology of these areas. Two hours of lecture and one four-hour laboratory per week.

441. Biology Seminar.
Credit 1 hour. Prerequisite: Senior standing in Biology. A review of important concepts and current events in biological sciences. May be repeated for maximum credit of two hours. Additional hours will not be counted towards student's major or in the cumulative GPA average.

442/542. Marine Biology.
Credit 4 hours. Prerequisites: GBIO 153 and BIOL 154 or equivalent and Junior standing or consent of the Department Head. A consideration of the sea as a biological environment, of the organisms which inhabit the sea, and of the interrelationships existing between marine organisms and the physical, chemical, and biological aspects of their environments. Two hours of lecture and four hours of laboratory per week.

450. Research Problems.
Credit 1 to 4 hours. Prerequisite: Junior standing in Biology. May be repeated for maximum credit four hours. Additional hours will not be counted towards student's major or in the cumulative GPA average.

481/581. Biogeography.
Credit 3 hours. Prerequisites: 12 hours of biology and Junior standing or consent of instructor and Department Head. Examines the distribution of organisms. A study of the patterns and processes of organism distribution from theoretical and empirical perspectives. Three hours of lecture per week.

485/585. Conservation Biology.
Credit 4 hours. Prerequisites: 12 hours of Biology and Junior standing. Recommended: General Biology 312 and 395. An examination of threats and disruptions to biological systems from the level of populations through ecosystems to global systems. Emphasis on basic principles of ecology, evolution, and genetics as they apply to conservation theory and practice. Three hours of lecture and two hours of laboratory per week.

492/592. History of Biology.
Credit 3 hours. Prerequisite: Twenty hours of biology or permission of the Department Head. A general survey of the historical development theories of biological sciences from early man to the present.

493/593. Special Topics in Biology.
Credit variable, 2-4 hours. Selected topics in Biology that are new or unique and are not covered in existing courses. This course may be repeated for credit if different topics are studied.

495/595. Biological Electron Microscopy.
Credit 4 hours. Prerequisite: Junior standing and consent of the Department Head. Methods of studying biological material with transmission electron microscopes; fixation, ultramicrotomy and cytochemistry; replica and shadowing; and other biological related procedures. Two hours of lecture and four hours of laboratory per week.

498/598. Biological Science for Teachers.
Credit 3 hours. A course designed for secondary and/or primary school teachers. Emphasis will be placed on developing the underlying scientific principles being presented in the classroom. Three hours of lectures and demonstrations per week. Persons majoring in Biology may not use this course to fulfill their major requirements; however, it may be used to fulfill an elective requirement.

603. Population Biology.
Credit 5 hours. Prerequisites: Zoology 301 or equivalent, and General Biology 312. A synthesis of population ecology, population genetics and ethology. Four hours of lecture and two hours of recitation per week.

609. Estuarine Ecology.
Credit 4 hours. Prerequisite: Eighteen hours of Biology including at least one ecology course, or consent of Department Head. A study of the estuary as an ecosystem with emphasis on the recent scientific literature on estuaries. Field studies on the Lake Maurepas/Lake Pontchartrain estuary. Two hours of lecture and four hours of laboratory per week.

610. Biostatistics.
Credit 4 hours. Prerequisites: Math 161 or consent of Department Head. An introductory course in the concept of biostatistics and sampling strategy. Topics covered include measures of central tendency and dispersion; Z, t, chi-square, and F distributions; experimental design, partitioning of variance, test of hypotheses, and maximizing power; analysis of variance and regression. Emphasis on field and laboratory research problems. Three hours of lecture and two hours of laboratory per week.

611. Advanced Biostatistics.
Credit 4 hours. Prerequisites: GBIO 377 or 610 or consent of Department Head. An advanced course in biostatistics that applies concepts, terminology, and notation from basic methods course(s) to advanced statistical techniques. Students will learn the major applications of experimental design, treatment arrangements analysis of covariance multiple regression, factor analysis, discriminant analysis, cluster analysis, and system modeling. Additional concepts will be developed such as blocking, covariables, nesting, pseudoreplication, confounding, repeated measures, types of sums of squares, and optimization. Three hours of lecture and two hours of laboratory per week.

612. Limnological Methods.
Credit 3 hours. Prerequisites: GBIO 153 and BIOL 154 or equivalent, and Chemistry 122-124, or consent of Department Head. A course designed to acquaint the student with the methods and techniques for the collection and analysis of aquatic and microbiological samples. One hour of lecture and three hours of laboratory per week.

615. Systematics.
Credit 3 hours. Prerequisites: 12 hours of biology including GBIO 402, or consent of instructor and Department Head. Studies in philosophy, theory, and methods employed in studying biodiversity. Phylogenetics is emphasized but alternatives are examined. Extensive computer time is required for the course. Three hours of lecture per week.

616. Historical Ecology.
Credit 3 hours. Prerequisites: Graduate standing in biological sciences or consent of Department Head. Currently active behavioral and ecological processes and systems all have a historical component. The historical component obfuscates the study of these processes and systems. This course examines the problem of history in studying contemporary processes and shows how to identify history by several methods. Three hours of lecture per week.

652. Molecular Biology.
Credit 4 hours. Prerequisites: One year of organic chemistry, General Biology 200 and 312. An intensive study of recent findings in the field of molecular biology. Three hours of lecture and two hours of laboratory per week.

660. Graduate Research Problems.
Credit 1-2 hours per semester. Maximum credit two hours. Additional hours will be graded on "Pass/ Fail" basis and will not be counted towards student's major or in the cumulative GPA average.

690. Special Topics in Biology.
Credit variable, 2-4 hours. Selected topics in Biology that are new or unique and are not covered in existing courses. This course may be repeated for credit if different topics are studied.

691. Graduate Seminar.
Credit 1 hour. May be repeated for maximum credit of two hours. Additional hours will not be counted towards student's major or in the cumulative GPA average.

770. Thesis.
Credit 1-6 hours each semester, with 6 hours needed for graduation. The student must enroll in the thesis course each semester the thesis is in progress. The thesis is graded Pass-Fail.

BOTANY (BOT & BOTL)

205. Advanced General Botany.
Credit 4 hours. Prerequisite: GBIO 153 and BIOL 154 or equivalent. The biology of non-flowering plants, emphasizing the morphology, taxonomy, and ecology of the algae, fungi, mosses, ferns, and conifers. Three hours of lecture and two hours of laboratory per week.

347. Vascular Plant Systematics.
Credit 4 hours. Prerequisites: GBIO 153 and BIOL 154 or equivalent and Sophomore standing, or consent of the Department Head. An introduction to the identification, naming, classification and evolution of vascular plants. Two hours of lecture and 4 hours of laboratory per week.

401/501. Plant Pathology.

Credit 4 hours. Prerequisite: GBIO 153 and BIOL 154 or equivalent and Junior standing or consent of the Department Head. A study of the nature and causes of disease in plants, emphasizing the principal diseases in Louisiana crops. Two hours of lecture and four hours of laboratory per week.

426/526. Plant Physiology.

Credit 4 hours. Prerequisite: GBIO 153 and BIOL 154 or equivalent, Chemistry 101/121-102/122 or equivalent and Junior standing or consent of the Department Head. A study of the life processes of plants emphasizing plant water relations, photosynthesis, transport process, and interactions with the environment. Three hours of lecture and two hours of laboratory per week.

427/527. Plant Stress Ecophysiology.

Credit 4 hours. Prerequisite: Botany 426/526 or equivalent and Junior standing or consent of the Department Head. An advanced course in plant physiology with emphasis on the stress physiology of plants in coastal and changing environments. Topics include non-destructive indicators of plant growth, nutrient stress, drought stress, salt stress, flooding stress, and plant responses to global change, such as increased carbon dioxide concentrations and temperature stress. Three hours of lecture and two hours of laboratory per week.

433/533. Phycology.

Credit 4 hours. Prerequisite: GBIO 153 and BIOL 154 or equivalent and Junior standing or consent of the Department Head. A study of the freshwater algae of southeastern Louisiana, emphasizing the ecology, taxonomy, and morphology of natural collections. Two hours of lecture and four hours of laboratory per week.

458/558. General Mycology.

Credit 3 hours. Prerequisite: GBIO 153 and BIOL 154 or equivalent and Junior standing or consent of the Department Head. A study of the morphology, taxonomy, and physiology of fungi. Two hours of lecture and two hours of laboratory per week.

481/581. [382] Plant Ecology.

Credit 3 hours. Prerequisites: GBIO 153 and BIOL 154 or equivalent, 12 additional hours of Biological Science and Junior standing or consent of the Department Head. A study of plants in relationship to their environments, with examples from recent publications in autecology, physiological ecology, population biology and plan community ecology, and with experience in the vegetation and habitats of Louisiana. Three hours of lecture per week.

482/582. Plant Anatomy.

Credit 4 hours. Prerequisite: GBIO 153 and BIOL 154 or equivalent and Junior standing or consent of the Department Head. A study of the anatomy and morphology of seed plants. Two hours of lecture and four hours of laboratory per week.

671. Advanced Plant Taxonomy.

Credit 3 hours. Prerequisites: Botany 412 or 447. A study of the classification of plants with attention to the phylogeny and evolutionary development of plant groups. One hour of lecture and four hours of laboratory per week.

MICROBIOLOGY (MIC & MICL)

205. [105] General Microbiology.
Credit 3 hours. Prerequisites: GBIO 151 and 153 or permission of Department Head and registration for or prior credit for MICL 207. A survey of the fundamental principles and concepts of the biology of microorganisms including biochemistry, cell biology, metabolism, photosynthesis, cell division, reproduction, genetics, molecular biology, development, evolution, ecology, and diversity as well as a survey of microbial infections and immunity to infectious diseases. Students majoring or minoring in Biology cannot receive degree credit for both MIC 205 and MIC 223. Three hours of lecture per week.

207. [107] General Microbiology Laboratory.
Credit 1 hour. Prerequisite: Registration for or prior credit for MIC 205 [105]. A survey of laboratory techniques used to study cellular morphology, growth, metabolism, and identification of bacteria. Students majoring or minoring in Biology cannot receive degree credit for both MICL 207 and MICL 224. Two hours of laboratory per week.

223. Medical Microbiology.
Credit 3 hours. Prerequisite: GBIO 151 and BIOL 152 or permission of Department Head and registration in or prior credit for Microbiology 224. An introductory course in microbiology with emphasis on the medically important microorganisms and their relationship to disease and immunity. This course is designed primarily for students in Nursing and Allied Health curricula. Students majoring or minoring in Biology cannot receive degree credit for both Microbiology 205 and 223. Additional hours will not be counted toward student's major or in cumulative GPA average. Three hours lecture per week.

224. Medical Microbiology Laboratory.
Credit 1 hour. Prerequisite: Registration in or prior credit for Microbiology 223. A series of laboratory exercises designed to illustrate the material studied in Microbiology 223. Students majoring or minoring in Biology cannot receive degree credit for both MICL 107 and MICL 224. Two hours of laboratory per week.

303. Immunology.
Credit 4 hours. Prerequisite: Microbiology 205-207 or 223-224 and Chemistry 102 or 122 or permission of Department Head. General Biology 312 is recommended. A study of basic immunological phenomena with emphasis on the importance and distinctiveness of cell-mediated and humoral immune responses. The biochemistry, genetics, and cellular components of the immune system will be stressed. Three hours of lecture and two hours of laboratory per week.

313. Microbial Ecology.
Credit 3 hours. Prerequisite: MIC 325 or permission of Department Head. A study of the role of microorganisms in the flow of materials and energy through global ecosystems, and in transformation of organic and inorganic materials. The role of microorganisms in the major biogeochemical cycles, carbon, nitrogen, sulfur, and phosphorus will be covered. Three hours of lecture per week.

325. Advanced General Microbiology.
Credit 4 hours. Prerequisite: Microbiology 205-207 or 223-224 or permission of Department Head. Advanced microbiological techniques; practices used in determinative microbiology. Two hours of lecture and four hours of laboratory per week.

336/536. Pathogenic Bacteria.
Credit 4 hours. Prerequisite: Microbiology 205-207 or 223-224 and Junior standing or consent of Department Head. A study of the major bacterial pathogens and their relationship to disease and immunity. The laboratory stresses techniques used in the isolation and identification of pathogenic bacteria. Two hours of lecture and four hours of laboratory per week.

338/538. Soil Microbiology.
Credit 4 hours. Prerequisite: 205-207 or 223-224 and Junior standing. A study of soil microorganisms, the impact of environmental factors, and survey of the major nutrient transformations occurring in soil. Two hours of lecture and four hours of laboratory per week.

423/523. Environmental Microbiology.
Credit 4 hours. Prerequisite: MIC 325 or permission of Department Head. A study of the application of modern microbiological concepts to water pollution, contamination of soil and atmosphere with the intent of understanding the complex microbial processes underling environmental deterioration, its control and prevention. A major emphasis will be placed on water and wastewater management. Two hours of lecture and four hours laboratory per week.

457/557. Dairy and Food Microbiology.
Credit 4 hours. Prerequisite: MIC 325 or permission of Department Head. A study of beneficial, pathogenic and spoilage microoganisms associated with dairy and food microbiology. Two hours of lecture and four hours of laboratory per week.

461/561. Bacterial Metabolism.
Credit 4 hours. Prerequisite: MIC 325 or permission of Department Head. A study of the metabolism as related to growth and energetics of eubacteria and archaebacteria. Two hours of lecture and four hours of laboratory per week.

463/563. Virology.
Credit 4 hours. Prerequisite: Microbiology 325 and Junior standing or consent of the Department Head. An introduction to principles of virology, including plant, bacterial, and animal viruses. Two hours of lecture and four hours of laboratory per week.

465/565. Recombinant DNA Techniques.
Credit 4 hours. Prerequisite: MIC 325 or permission of Department Head. A study of the concepts and techniques involved in recombinant DNA research and their application to genetic analysis in bacterial model systems. Laboratories and designed to compliment and reinforce the lecture. Two hours of lecture and four hours of laboratory per week.

610. Industrial Microbiology.
Credit 4 hours. Prerequisite: Microbiology 461/561 or equivalent. The use of microbes in industrial processes such as production of antibiotics, vitamins, and chemicals. Two hours of lecture and four hours of laboratory per week.

615. Determinative Microbiology.
Credit 4 hours. Prerequisite: Microbiology 461/561 or consent of the Department Head. A study of the classification, identification and nomenclature of the 19 groups of bacteria. One hour of lecture and six hours of laboratory per week.

640. Microbial Physiology.
Credit 4 hours. Prerequisite: Microbiology 453/553 or equivalent. A study of the relationships between structure and function of bacteria and allied organisms. Two hours of lecture and four hours of laboratory per week.

650. Microbial Genetics.
Credit 3 hours. Prerequisite: Microbiology 461/561 or equivalent. The genetics of microorganisms with special emphasis on the molecular level.

ZOOLOGY (ZOO & ZOOL)

241. Human Physiology.
Credit 4 hours. Prerequisite: GBIO 151 and BIOL 152 or equivalent. A general study of functions in organ systems of the human. Three hours of lecture and two hours of laboratory per week. Persons majoring in Biology may not use this course to fulfill their major requirements; however, it may be used to fulfill an elective requirement.

242. Principles of Human Biology.
Credit 4 hours. Prerequisite: GBIO 151 and BIOL 152 or equivalent. Principles of Human Biology has been primarily designed for students pursing careers with curricula that require a single semester of human biology such as Kinesiology. The major areas of subject concentration are the muscular, cardiovascular, respiratory, nervous, and sensory systems. Biology majors may not use this course to fulfill their major requirements. However, it may be used to fulfill an elective requirement and in calculating cumulative and major averages. Three hours of lecture and two hours of laboratory per week.

250. Anatomy and Physiology Lecture I.
Credit 3 hours. Prerequisites: GBIO 151 and BIOL 152 and registration in or prior credit for Zoology 252 or consent of Department Head. A study of the anatomy and physiology of cells, skin, muscles, nervous system, sensory and endocrine systems. Three hours of lecture per week. Persons majoring in Biology may not use this course to fulfill their major requirements; however, it may be used to fulfill an elective requirement.

251. Anatomy and Physiology Lecture II.
Credit 3 hours. Prerequisites: GBIO 151 and BIOL 152 and registration in or prior credit for Zoology 253. A study of the structure and function of the cardiovascular, digestive, reproductive, respiratory, excretory, sensory, and endocrine systems. Three hours of lecture per week.

252. Anatomy and Physiology Laboratory I.
Credit 1 hour. Prerequisites: Registration in or prior credit for Zoology 250. A series of laboratory exercises designed to illustrate the course material in Zoology 250. Two hours of laboratory per week. Persons majoring in Biology may not use this course to fulfill their major requirements; however, it may be used to fulfill an elective requirement.

253. Anatomy and Physiology Laboratory II.
Credit 1 hour. Prerequisites: Registration in or prior credit for Zoology 251. A series of laboratory exercises designed to illustrate the course material in Zoology 251. Two hours of laboratory per week. Persons majoring in Biology may not use this course to fulfill their major requirements; however, it may be used to fulfill an elective requirement.

301. Invertebrate Zoology.
Credit 4 hours. Prerequisite: GBIO 153 and BIOL 154 or equivalent. A general study of the principal forms of invertebrate animals. Two hours of lecture and four hours of laboratory per week.

302. Comparative Anatomy of the Vertebrates.
Credit 4 hours. Prerequisite: GBIO 153 and BIOL 154 or equivalent. A comparative study of the anatomy of representative vertebrate animals. Two hours of lecture and four hours of laboratory per week.

309/509. General Entomology.
Credit 4 hours. Prerequisite: GBIO 153 and BIOL 154 or equivalent and Junior standing or consent of the Department Head. A general study of the structure, classification, and life history of insects, including a general study of control methods. Two hours of lecture and four hours of laboratory per week.

328/528. Waterfowl Management.
Credit 3 hours. Prerequisite: GBIO 153 and BIOL 154 or equivalent and Junior standing or consent of the Department Head. A study of the principles, practices, and problems of waterfowl management, with an introduction to current research methods and pertinent literature. A two-hour laboratory stresses habitat evaluation with trips to waterfowl refuges. Waterfowl identification and aquatic plant identification are other laboratory objectives. Two hours of lecture and two hours of laboratory per week.

331. Embryology.
Credit 4 hours. Prerequisites: Zoology 301 and GBIO 200.A comparative study of the embryology of invertebrates and vertebrates. Three hours of lecture and three hours of laboratory per week.

332. Animal Histology.
Credit 4 hours. Prerequisite: GBIO 153 and BIOL 154 or equivalent and Junior standing or consent of the Department Head. A study of normal animal microscopic anatomy; correlations with cellular and tissue function are given. Two hours of lecture and four hours of laboratory per week.

352. Field Zoology.
Credit 4 hours. Prerequisite: GBIO 153 and BIOL 154 or equivalent and Junior standing or consent of the Department Head. A laboratory course designed to acquaint the student with the methods of collecting and identifying the common species of vertebrate animals found in Louisiana. One hour of lecture and six hours of laboratory per week.

392. General Physiology.
Credit 4 hours. Prerequisite: GBIO 153 and BIOL 154 or equivalent, Chemistry 265/266 and Junior Standing or consent of the Department Head. A comparative approach to study the fundamental mechanisms which underlie the basic physiological processes. Laboratory will involve research experiments emphasizing hands-on instrumentation and computer usage, data analysis and scientific written reports. Three hours of lecture and three hours of laboratory per week.

438/538. Mammalogy.
Credit 4 hours. Prerequisites: Zoology 302 and 352 or consent of the Department Head. A study of the life history, distribution, systematics, evolution, and adaptations of mammals. Two hours of lecture and four hours of laboratory per week.

453/553. Ecological Parasitology.
Credit 4 hours. Prerequisite: 12 hours of biology and Junior standing or consent of the Department Head. Survey of the major parasitic taxa, including microparasites (protistans) and macroparasites (helminthes). Ecological aspects of host-parasite relationships, parasite life histories, and methods of transmission. Topics in the evolutionary ecology of parasites will focus on origins and evolution of complex life cycles, host specificity, and strategies of host exploitation. Patterns and processes of parasite aggregation, population dynamics, and community structure are analyzed. Four hours of lecture per week.

455/555. Medical Parasitology.
Credit 4 hours. Prerequisite: 12 hours of biology and Junior standing or consent of the Department Head. A study of human parasites of significant medical importance. Two hours of lecture and four hours of laboratory per week.

456/556. Ichthyology.
Credit 4 hours. Prerequisite: GBIO 153 and BIOL 154 or equivalent and Junior standing or consent of the Department Head. A study of the classification, structure, and life history of fishes, both freshwater and marine. Two hours of lecture and one four-hour laboratory per week.

457/557. Invertebrate Ecology.
Credit 4 hours. Prerequisite: Zoology 301 or equivalent or consent of Department Head. Field and laboratory study of ecological relationships of invertebrate animals. Observation and collection of invertebrates in terrestrial, marine, estuarine, and freshwater environments. Identification and preservation of specimens in the laboratory. Two Saturday field trips. Two hours of lecture and four hours of laboratory per week.

465/565. Animal Development.
Credit 4 hours. Prerequisite: GBIO 200. Credit for or enrollment in GBIO 312 also recommended. A study of the major patterns of animal development and the mechanisms responsible for cell differentiation during development. Three hours of lecture and three hours of lab per week.

470/570. Ornithology.
Credit 4 hours. Prerequisites: Zoology 302 and 352 or consent of the Department Head. A study of the taxonomy, life history, distribution, evolution, and adaptations of birds. Two hours of lecture and four hours of laboratory per week.

471/571. Comparative Endocrinology.
Credit 4 hours. Prerequisite: ZOO 392 or equivalent or permission of the instructor. A study of the hormones regulating reproduction, growth, and homeostasis in animals, including humans. Three hours of lecture and two hours of laboratory per week.

483/583. Introduction to Paleontology.
Credit 4 hours. Prerequisite: GBIO 153 and BIOL 154 or equivalent and Junior standing or consent of the Department Head. A study of vertebrate evolution from Devonian fishes to man. The course is divided between vertebrate evolution and anthropology. Field experience will be emphasized using and teaching basic techniques and concepts. Three hours of lecture and two hours of laboratory per week.

488/588. Cytology.
Credit 3 hours. Prerequisite: 12 hours of biology and Junior standing or consent of the Department Head. A study of cellular anatomy, including the major cell organelles. Three hours of lecture per week.

605. Developmental Biology.
Credit 3 hours. Prerequisite: 12 hours of biology and Chemistry 121 or consent of the Department Head. A study of the molecular interactions and processes which occur during the developmental phases of organelle, cell, and tissue formation. Three hours of lecture per week.

608. Fisheries Biology.
Credit 3 hours. Prerequisite: Zoology 456/556. Research methods in fishery biology; life histories, environmental relations, and fishery management problems. One hour of lecture and four hours of laboratory per week.

611. Advanced Invertebrate Zoology.
Credit 4 hours. Prerequisite: Zoology 301 or equivalent. A study of the phylogeny, morphology, and biology of invertebrate animals. Two hours of lecture and four hours of laboratory per week.

630. Herpetology.
Credit 4 hours. Prerequisite: Zoology 352 or equivalent. A course dealing with the survival strategy of amphibians and reptiles. Areas of study include evolution, dispersal, and populations of these organisms with emphasis on their role in the various ecosystems. Three hours of lecture and two hours of laboratory per week.

635. Endocrinology.
Credit 4 hours. A study of the evolution, pharmacology, physiology, and structure of endocrine glands and hormones. This will include not only the medical implications, but also the role of hormones in the survival strategy of various organisms. Three hours of lecture and four hours of laboratory per week.

645. Environmental Physiology.
Credit 4 hrs. Prerequisites: Sixteen hours of biology, including either a course in ecology or physiology, or consent of the instructor. A study of physiology in the content of an animal's physical, chemical, and social environment. Multiple levels of organization are considered, from organism to biochemistry. Three hours of lecture and three hours of laboratory per week.

GULF COAST RESEARCH LABORATORY

Southeastern Louisiana University is affiliated with the Gulf Coast Research Laboratory in Ocean Springs, Mississippi. Students, with permission of their Department Head, may apply to the Gulf Coast Research Laboratory to take any of the following courses. They then register at Southeastern and go to Ocean Springs for their classes. Room and board is furnished for a fee by the Gulf Coast Research Laboratory.

SUMMER COURSES

Botany 369/569 (Botany 341)*-Marine Botany. Credit 4 hours.

Botany 467/567 (Botany 441)*-Salt March Ecology. Credit 4 hours.

General Biology 466/566 (Chemistry 461)*-Marine Chemistry. Credit 6 hours.

Microbiology 454/554 (Microbiology 454)*-Marine Microbiology. Credit 5 hours.

General Biology 496/596 (Ocean 451)*-Introduction to Physical and Chemical Oceanography. Credit 5 hours.

Zoology 379/579 (Zoology 361)*-Marine Invertebrate Zoology. Credit 6 hours.

Zoology 397/597 (Zoology 362)*-Marine Vertebrate Zoology and Ichthyology. Credit 6 hours.

Zoology 478/578 (Zoology 442)*-Marine Fisheries Management. Credit 4 hours.

Zoology 443/543 (Zoology 443)*-Introduction to the Behavior and Neurobiology of Marine Animals. Credit 4 hours.

Zoology 486/586 (Zoology 452)*-Marine Ecology. Credit 5 hours.

Zoology 484/584 (Zoology 461)*-Parasites of Marine Animals. Credit 6 hours.

Zoology 464/564 (Zoology 464)*-Aquaculture. Credit 6 hours.

These courses are taught by prior arrangement:

General Biology 400/500 (Marine Science 400)*-Special Problems in Marine Science. Credit 1-6 hours.

General Biology 685 (Marine Science 700)*-Special Problems in Marine Science. Credit 1-6 hours.

General Biology 686 (Marine Science 705)*-Special Topics in Marine Science. Credit 1-6 hours.

*Gulf Coast Research Laboratory numbers.

LOUISIANA UNIVERSITIES MARINE CONSORTIUM

Southeastern Louisiana University is a member of the Louisiana Universities Marine Consortium (LUMCON). Students, with permission of their Department Head, may apply to LUMCON to take any of the following courses. They then register at Southeastern and go to the Marine Research and Education Center at Cocodrie, LA for their classes. Room and board is furnished, for a fee, by LUMCON.

SUMMER COURSES

Zoology 203. Introduction to Marine Zoology. Credit 4 hours.

General Biology 204. Introduction to Marine Science. Credit 4 hours.

Zoology 404/504. Marine Invertebrate Zoology. Credit 4 hours.

Zoology 414/514. Marine Vertebrate Zoology. Credit 4 hours.

General Biology 417/544. Marine Chemistry. Credit 4 hours.

Botany 448/548. Marine Botany. Credit 4 hours.

Microbiology 449/549. Marine Microbiology. Credit 4 hours.

General Biology 465/565. Coastal Marine Geology. Credit 4 hours.

General Biology 480/580. Marine Ecology. Credit 4 hours.

General Biology 487/587. Marine Science for Teachers. Credit 4 hours.

These courses are taught by prior arrangement:

General Biology 401. Topics in Marine Science. Credit 1-6 hours.

General Biology 403. Special Problems in Marine Science. Credit 1-6 hours.

General Biology 606. Topics in Marine Science. Credit 1-6 hours.

General Biology 607. Special Problems in Marine Science. Credit 1-6 hours.

HORTICULTURE (HORT)

100. Consumer Horticulture.
Credit 3 hours. Care and culture of indoor and outdoor plants, including their use in the home landscape. One hour of lecture and four hours of laboratory per week.

115. Basic Floral Design.
Credit 3 hours. Basic elements and design principles of contemporary flower arranging with domestic and commercial applications. Students will be responsible for cost of supplies, the amount of which will depend upon the number of creations and price level. One hour of lecture and four hours of laboratory per week. Laboratory fee: $25.00.

232. General Horticulture.
Credit 3 hours. Prerequisite: GBIO 151/BIOL 152. Plant propagation, plant growing, vegetable and fruit culture. Two hours of lecture and two hours of laboratory per week.

261. Landscape Design.
Credit 3 hours. An introduction to theory and practices in design of landscape with consideration given to plant materials, site evaluation, and human needs. Two hours of lecture and two hours of laboratory per week.

301. Introductory Soils.
Credit 4 hours. Prerequisite: Chemistry 102-104. Formation, chemical properties, physical properties, classification, and conservation of soils. Three hours of lecture and two hours of laboratory per week.

328. Plant Propagation.
Credit 3 hours. Prerequisite: Horticulture 232. A study of the asexual and sexual processes in the propagation of herbaceous and woody plants. Two hours of lecture and two hours of laboratory per week.

363. Integrated Pest Management.
Credit 4 hours. Prerequisite: Horticulture 232, Zoology 309, Chemistry 102-104. The use of chemical, biological, and cultural methods to control pests of agricultural production. Two hours of lecture and four hours of laboratory per week.

370. Surveying, Irrigation, and Drainage.
Credit 3 hours. Principles of surveying, irrigation, and drainage as applicable to establishment, renovation, and maintenance of landscape areas. Two hours lecture and tow hours lab per week.

427. Foliage Plants and Greenhouse Management.
Credit 3 hours. Prerequisite: Horticulture 232. Managing commercial and home greenhouses, identification and study of foliage plants. Two hours of lecture and two hours of laboratory per week.

450. Floriculture.
Credit 3 hours. Prerequisite: Horticulture 232. Commercial production and marketing of major cut flower crops and flowering pot plants under cover and/or in the open. Two hours of lecture and two hours of laboratory per week.

451. Plant Breeding.
Credit 3 hours. Principles of breeding crop plants with application of genetic data.

452. Commercial Fruit and Nut Production.
Credit 3 hours. Prerequisite: Horticulture 232. A study of the various cultural practices and principles of fruit and nut growing and handling.

453. Vegetable Crops.
Credit 3 hours. Prerequisite: Horticulture 232. A study of various cultural practices and principles of vegetable growing and handling.

461. Woody Ornamental and Nursery Management.
Credit 3 hours. Prerequisite: Horticulture 232 and Zoology 309. Management of turf grasses on lawns, golf courses, parks, highways, and athletic fields with emphasis on establishment and maintenance. Two hours of lecture and two hours of laboratory per week.

492. Design and Analysis of Experiments.
Credit 3 hours. Prerequisite: Senior standing. Design and experiments common to agricultural research with analysis and interpretation of data. Two hours of lecture and two hours of laboratory per week.

Southeastern's 2002-03 Course Listing Index
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Office of Records and Registration

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This page was last updated June 2002

Questions or comments about this site should be directed to pfinch@selu.edu

You may contact Southeastern's Office of Records and Registration
for additional information at
1-800-222-SELU or (985) 549-2000