

Agriculture Courses

AG 1131 - Intro To Agriculture

Hours: 1

(AGRI 1131) Introduction to agriculture and its relationship to the sciences. Also explores careers and opportunities in agriculture. Insights into the agriculture curriculum and course content are also presented. Required of all agriculture majors.

AG 201 - Biological Literature

Hours: 3

This course provides students with the fundamentals of scientific thinking and scientific writing. The course starts with a brief overview of the history and philosophy of science as it pertains to biology. Students will learn about empiricism, parsimony, and how to apply the scientific method to developing and testing hypotheses. Students will be taught how to write in scientific style; naming conventions, how to cite scientific names, how to avoid obfuscatory scribnerly, establishing flow, organizing a scientific document, how to write an abstract, how to present scientific data and statistics, how to cite figures and tables, how to cite scientific sources, how to avoid plagiarism, and how to find scientific information. Concepts of bioethics will be presented at the end of the semester. Crosslisted with: BSC 201.

AG 297 - Special Topics

Hours: 0-4

Organized class. May be repeated when topics vary.

AG 300 - Professional Agricultural Communications

Hours: 1

Professional Agricultural Communications. One semester hour. Techniques of agricultural communication emphasizing principles involved in job search. Techniques of interviewing, resume writing, letters of inquiry, etc. For agriculture majors. Prerequisites: ENG 1301 and junior standing.

AG 314 - Comparative Vertebrate Physiology

Hours: 3

The course is a comparative study of basic physiological principles and functional organization with emphasis on the functioning of organ systems in various vertebrate classes and their adaptation to the environment leading to an understanding of evolutionary relationships. The course evaluates i) the mechanisms by which animals perform their life-sustaining functions, ii) the ways in which diverse phylogenetic groups of animals both resemble each other and differ, iii) the ways in which physiology and ecology interact, and iv) the importance of all levels of organization, from genes to proteins and tissues to organs, for the full understanding of physiological systems. Crosslisted with: BSC 314.

AG 315 - Ecological Genetics

Hours: 3

Ecological genetics is about how environmental and population-level processes affect the genetic structure of populations. The course begins with a basic overview Mendelian genetics followed by an in-depth study of population genetics and the intrinsic and extrinsic processes that influence the genetic composition of populations and metapopulations. Because the interaction between genes and the environment fundamentally affect the viability of populations, ecological genetics has broad relevance for understanding population stability and maintenance healthy populations. Crosslisted with: BSC 315.

AG 316 - Becoming a Wildlife Professional

Hours: 3

Working with wildlife can be a thrilling adventure steeped in the wonders of the natural world, but entering the field demands a strong personal commitment. Students will gain knowledge in the proper training and guidance needed to transform themselves into competitive applicants for wildlife jobs and forge successful careers. Student will learn about many entry-level jobs available for the next generation of wildlife biologists and conservationists. Over 100 diverse career options for aspiring wildlife workers will be presented, including work in biological field research, forestry, rehabilitation, ranching, photography, and refuge management. Students will learn the best ways to prepare for a vocation in the wildlife profession while obtaining pragmatic advice about applying for and obt Crosslisted with: BSC 316.

AG 335 - Wildlife Management I

Hours: 3

Wildlife Management I. Three semester hours. The purpose of this course is to introduce students to the many aspects of wildlife and conservation science. It will provide an introduction to the history of wildlife management and conservation, ecosystems and ecology, population modeling, animal behavior, food and cover, wildlife diseases, predators and predation, and hunting and trapping. Offered: FALL

AG 336 - Wildlife Management II

Hours: 3

Wildlife Management II. Three semester hours. This course is designed to complement Wildlife Management I and provides an introduction to the many aspects of wildlife ecology and conservation science. Topics covered include water and soils, farmlands, rangelands, and forests, parks and refuges, urban wildlife management, and non-game and endangered species. Students are required to participate in field trips designed to give practical experience in wildlife management techniques.

AG 337 - Field Methods in Wildlife and Conservation Science

Hours: 4

This course provides students with practical training in the methods used to collect quantitative data on plant and animal populations, animal movements and home ranges, habitat associations, and animal behavior. Field exercises are integrated with lecture material emphasizing study design, statistics, and data interpretation. Crosslisted with: BSC 337.

AG 338 - Wildlife Management Techniques

Hours: 3

This class will develop the principles and techniques for managing wildlife populations. Topics covered will include experimental design, hypothesis testing, scientific writing, techniques for capturing and marking wildlife, age and sex determination, parameter estimation (population size, density, survival, etc.), radio-telemetry, home range and resource selection. Students enrolled in this course must be willing to participate in a field-based classroom research project when and where feasible. Crosslisted with: BSC 338.

AG 339 - Becoming a Wildlife Professional

Hours: 3

Working with wildlife can be a thrilling adventure steeped in the wonders of the natural world, but entering the field demands a strong personal commitment. Students will gain knowledge in the proper training and guidance needed to transform themselves into competitive applicants for wildlife jobs and forge successful careers. Student will learn about many entry-level jobs available for the next generation of wildlife biologists and conservationists. Over 100 diverse career options for aspiring wildlife workers will be presented, including work in biological field research, forestry, rehabilitation, ranching, photography, and refuge management. Crosslisted with: BSC 339.

AG 350 - Introduction to Sustainable Agriculture

Hours: 3

This course introduces students to the common principles and practices associated with sustainable agriculture from ecological, economical, social, and ethical perspectives.

AG 352 - Urban Agriculture

Hours: 3

This course provides an extensive overview of agriculture and food security issues and practices at the local level in cities in the U.S. and abroad.

AG 392 - Appld Ethics US World Ag

Hours: 3

This course examines major, contemporary issues in agriculture and food policy with emphasis on the ethical aspects of each issue. Discussion focuses on assessing the particular economic, cultural, geographic, political, religious, technological and scientific principles with a moral and ethical framework. Course scope is approximately half U.S. domestic issues and half international issues. Prerequisite: Junior standing.

AG 397 - SPECIAL TOPICS

Hours: 1-4

Special Topics. One to four semester hours. Organized class. May be repeated when topics vary.

AG 400 - Seminar

Hours: 1

Seminar. One semester hour. Techniques involved in presenting scientific and technical oral reports. Oral presentations required. Prerequisites: Senior standing.

AG 402 - Ornithology

Hours: 3

This course begins with an overview of current theories regarding the origins of birds and flight. This is followed by a brief survey the living orders and their biogeography. Other topics include the mechanics and adaptations for flight, avian physiology and anatomy, migration, communication and behavior, ecology, and avian conservation. Prerequisites: BSC 301 with a minimum grade of C. Crosslisted with: BSC 402.

AG 404 - Vertebrate Biology

Hours: 3

This course takes a systematic approach to understanding vertebrate evolution, diversity and biology. It will follow the development of each vertebrate taxon through the fossil record from late Cambrian to the present. This is followed by discussions of vertebrate zoogeography, habitat and foraging, feeding modes, dispersal and migration, mating systems and parental care. Prerequisites: BSC 301 with a minimum grade of C. Crosslisted with: BSC 404.

AG 405 - Internship Agri-Industries

Hours: 3-6

Three to six semester hours. This course provides the opportunity for students to gain on-the-job experience in the preparation for careers in the rapidly growing agri-related areas of industry and business. Assignments will be at an approved work situation under supervision of a designated faculty member. Ten to twenty hours per week will be required.

AG 406 - Mammalogy

Hours: 3

The objective of this course is to survey the phylogenetic relationships, diversity, biology, and ecology of mammals, including an understanding of the characterization of the orders and families of the extant mammals based on morphological traits, evolutionary Crosslisted with: BSC 406.

AG 408 - Nutritional Biochemistry

Hours: 3

Nutritional Biochemistry - Three semester hours A course in biochemistry using nutrition as a model. Topics will include the energetics of metabolism, the structure and metabolism of proteins, carbohydrates, lipids and the integration of metabolic systems. Included also will be the chemistry of nitrogenous bases and how transcription and translation is accomplished on the cellular level. The course is 3-credit-hour class with 3 hours lecture and no lab (3,0). Prerequisites are ANS 407, CHEM 212, CHEM 314.

AG 415 - Upland Bird Ecology and Management

Hours: 3

Status, ecology, management, and conservation issues of North American upland game birds. Student will understand the role of upland game bird professionals. Develop knowledge of the status of North American upland game birds. Understand the basic principles of upland game bird ecology and management. Learn to apply knowledge to solve conservation problems. Crosslisted with: BSC 415.

AG 416 - Wildlife Population Biology

Hours: 3

Three semester hours (2 lec / 2 lab) This course outlines processes governing the abundance and distribution of animals and plants, and the consequences for natural resource management. Practical applications lie in wildlife management, sustainable harvesting of resources, pest control and conservation of endangered species. Topics will include mathematical models of population growth, population viability analysis, and metapopulations, dispersal, population harvesting, predation, population cycles, and competition. Prerequisites: Math 142 or MATH 2312. Crosslisted with: BSC 416.

AG 417 - Geospatial Mapping

Hours: 3

The course will provide basic knowledge of the fundamentals of Geographic Information Systems (GIS), including GIS theory and applications. The course will take a hands-on and problem solving approach to learning GIS and will cover basic GIS including map characteristics and projections, spatial data models, relational databases, and spatial analysis with a focus on natural resource research and management and environmental science. Crosslisted with: BSC 417.

AG 423 - Natural Resources Management

Hours: 3

An investigation of best management practices and conservation techniques used by landowners and managers to protect renewable natural resources from intensive agricultural production. Emphasis will be on preventing soil loss and contamination, maintaining water quality, and protecting wildlife habitat.

AG 435 - Wildlife Habitat Ecology and M

Hours: 3

This class will expose the student to the history and concepts of an animal's habitat beginning with the ideas of Aldo Leopold to current ideas of what habitat is. Students will be introduced to principles and techniques of habitat management as they apply to forest, rangeland, wetland, and agricultural ecosystems. Current concepts of Conservation Biology such as fragmentation, meta-population ecology, and corridor ecology will also be covered. Students enrolled in this course must be willing to attend field trips when and where feasible to see actual management practices conducted in the field. Crosslisted with: BSC 435.

AG 436 - Plant Diversity & Conservation

Hours: 3

The course focuses on patterns and distribution of plant diversity and threats to plant diversity. Range of strategies and approaches used in plant conservation will be discussed. Crosslisted with: BSC 436.

AG 438 - Wetland Ecology and Management

Hours: 4

Four semester hours (3 lec / 2 lab) This class will address the ecology of wetlands from a systems approach, starting first with what defines a wetland both legally and functionally, and covering important and defining principles of hydro-period, soils, wetland plants, wetland succession, delineation, and wetlands as wildlife habitat. The lab will immerse students in field exercises ranging from wetland plant collection and identification, and wetland bird identification. Students enrolled in this course must be willing to attend field trips when and where feasible to see different wetland types and the function and values they provide. Prerequisites: BSC 307. Crosslisted with: BSC 438.

AG 440 - Human Dimensions of Wildlife

Hours: 3

Human Dimensions of Wildlife Management explains how a wildlife professional can more effectively manage species and social-ecological systems by fully considering the role that humans play in every stage of the wildlife management process. Human Dimensions of Wildlife Management provides the essential information that students and practitioners need to be effective problem solvers to handle a variety of situations, such as managing deer populations in residential areas, encounters between predators and people, or managing citizen input on wildlife issues. Topics will include human dimensions of wildlife management and conservation, wildlife use (hunting and fishing), working with public and private landowners, involving citizen scientists, managing citizen input, using economics to inform Crosslisted with: BSC 440.

AG 462 - Agroecology

Hours: 3

AG 462 Agroecology is a three hour course to understand agroecological concepts that incorporate ideas about a more environmentally and socially sensitive approach to agriculture, one that focuses not only in production, but also in ecological sustainability of a production system. Crosslisted with: BSC 462.

AG 463 - Landscape Ecology

Hours: 3

AG 463 landscape Ecology is a three hour course designed to provide an overview of the relationships between ecological processes in the environment and particular ecosystems using a variety of landscape scales, development of spatial patterns, and organizational levels of research and policy. Crosslisted with: BSC 463.

AG 464 - Principles of Sustainability

Hours: 3

AG 464 Principles of Sustainability is a three hour course designed to provide an overview of the social and biological principles of sustainability. An emphasis will also be placed on understanding on the education, health, population dynamics, culture, agriculture, food security, and natural resources aspects of sustainability. Crosslisted with: BSC 464.

AG 489 - Indst Agricul Sci

Hours: 3

Independent Study. One to four semester hours. Individualized instruction/research at an advanced level in a specialized content area under the direction of a faculty member. May be repeated when the topic varies. Prerequisite: Consent of department head.

AG 490 - H Honors Thesis

Hours: 0-6

AG 490 - H Honors Thesis Hours: 6 Individualized instruction/research at an advanced level in a specialized content area under the direction of a faculty member. Prerequisite Consent of head. Note May be repeated when the topic varies.

AG 491 - H Ind Honors Readings

Hours: 3

AG 491 - H IND HONORS RDGS Hours: 3 Individualized instruction/research at an advanced level in a specialized content area under the direction of a faculty member. Prerequisite Consent of head. Note May be repeated when the topic varies.

AG 497 - Special Topics

Hours: 1-5

Special Topics. One to five semester hours. Organized class. May be repeated when topics vary.