

# ANIMAL SCIENCES

---

Not all courses are offered every semester. Refer to the schedule of courses for each term's specific offerings.

More Info (<https://one.ufl.edu/soc/>)

*Unless otherwise indicated in the course description, all courses at the University of Florida are taught in English, with the exception of specific foreign language courses.*

## Department Information

The Department of Animal Sciences creates new solutions to tomorrow's problems in the areas of teaching, research, and extension, by integrating the most modern technologies available with personal expertise and attention to the needs of both students and industry.

More Info (<https://animal.ifas.ufl.edu/>)

### CONTACT

352.392.1981 (tel) | 352.392.7652 (fax)

P.O. BOX 110910

2250 Shealy Drive

GAINESVILLE FL 32608

Map (<http://campusmap.ufl.edu/#/index/0459>)

### Curriculum

- Animal Genetics Certificate
- Animal Sciences
- Combination Degrees

---

## Courses

### ALS 4932 Special Topics 1-3 Credits

**Grading Scheme:** Letter Grade

Variable subjects provide content for the study of agricultural topics not offered in other courses.

**Prerequisite:** Instructor permission.

### ANS 2002 The Meat We Eat 3 Credits

**Grading Scheme:** Letter Grade

This course affords students the ability to critically examine and evaluate the principles of the scientific method, model construction, and use the scientific method to explain natural experiences and phenomena by discussing animal protein production, processing and retailing, and animal muscle in protein in the diet; proper selection, preparation, cooking and storage of animal protein products and their influence on food safety and palatability; meat and muscle chemistry and composition, muscle growth and contraction.

**Attributes:** General Education - Biological Science

### ANS 2005 The Role of Animals in Human History 3 Credits

**Grading Scheme:** Letter Grade

The course surveys the importance of animals through human history, from the stone age to the present. The domestication of dogs, cats, major farm animals and some less familiar, such as camels, reindeer and buffalo and the role they played in different western societies and cultures across human history is discussed.

**Attributes:** General Education - Humanities, General Education - International, Satisfies 6000 Words of Writing Requirement

### ANS 2090 Survey of Veterinary Professions 2 Credits

**Grading Scheme:** Letter Grade

Introduces careers in the veterinary medicine profession with discussions related to career exploration, career preparation, and the procedure of job placement.

### ANS 2615C Introduction to livestock and meat evaluation 3 Credits

**Grading Scheme:** Letter Grade

Basic elements of live animal evaluation, selection and carcass evaluation.

### ANS 2934 Careers in Animal Sciences 2 Credits

**Grading Scheme:** Letter Grade

Interactive exposure to employment opportunities in the animal sciences.

**ANS 3006 Introduction to Animal Science 3 Credits**

**Grading Scheme:** Letter Grade

Role of beef cattle, dairy cattle, swine, sheep, poultry, and horses in serving humans. Introduces anatomy and physiology of digestion, growth, reproduction, and the application of genetics to livestock improvement.

**Prerequisite:** BSC 2005 or BSC 2010.

**ANS 3006L Introduction to Animal Science Laboratory 1 Credit**

**Grading Scheme:** Letter Grade

Laboratory experiences designed to accompany ANS 3006; must be registered for ANS 3006 concurrently or have already completed the lecture course.

**Corequisite:** ANS 3006 for AL majors only.

**ANS 3008 Domestic Animal Behavior and Welfare 3 Credits**

**Grading Scheme:** Letter Grade

Introduces basic principles and applications of animal behavior, including approaches to improve animal welfare through an understanding of animal behavior. Examples are drawn from a wide range of species, but the focus is on applying concepts to understand the behavior and welfare of domestic animals under human care, including livestock, companion, and laboratory species.

**Prerequisite:** sophomore standing or higher.

**ANS 3043 Growth and Development of Farm Animals 3 Credits**

**Grading Scheme:** Letter Grade

An integration of the physiological, genetic, and nutritional bases of animal growth, development, and body composition with application to livestock production.

**Prerequisite:** BSC 2010 and BSC 2010L and BSC 2011 and BSC 2011L and ANS3006C or equivalents and AL major.

**ANS 3216 Introduction to Equine Science 3 Credits**

**Grading Scheme:** Letter Grade

For those with an interest in equine sciences but with limited equine experience. Principles of equine selection, care, and utilization.

**Prerequisite:** BSC 2010 or BSC 2010L.

**ANS 3217C Equine Health Management 2 Credits**

**Grading Scheme:** Letter Grade

Principles and practices for planning, implementing, and maintaining equine herd health.

**Prerequisite:** ANS 3006 and AL-equine major.

**ANS 3239L Techniques in Equine Science 2 Credits**

**Grading Scheme:** Letter Grade

Introduces the knowledge, horseback, and management skills required for proper daily horse care and conditioning. Designed for those seeking employment requiring basic horse care skills and for novice horse owners.

**Prerequisite:** ANS 3216 and AL major.

**ANS 3246L Beef Production Practicum 2 Credits**

**Grading Scheme:** Letter Grade

Participate in beef cattle production systems under close supervision of faculty and staff; gain knowledge of best management practices regarding cattle handling, tractor, and equipment use, as well as cattle hauling by participating in experiential learning opportunities.

**Prerequisite:** sophomore or junior standing;

**Corequisite:** ANS 4243.

**ANS 3250L Dairy Cattle Practicum 2 Credits**

**Grading Scheme:** Letter Grade

Practical application of the principles of biology and management of dairy cattle. Topics include milking procedures, behavior, cattle handling, records, and computer applications in dairy production; body condition, lameness and hygiene scoring; dairy farm evaluation; on-farm practica and field trips.

**Corequisite:** ANS 3251.

**ANS 3251 Biology and Management of Dairy Cattle 3 Credits**

**Grading Scheme:** Letter Grade

Biology of dairy cattle and the interrelationship between biology and management. Topics include anatomy and physiology, nutrition, reproduction, genetics, behavior, diseases, dairy products, housing, management, economics, and the environmental impact of dairy production.

**ANS 3319C Reproductive Physiology and Endocrinology in Domestic Animals 4 Credits**

**Grading Scheme:** Letter Grade

Principles of reproduction in avian and mammalian farm animals including factors related to the estrous cycle, pregnancy, lactation, semen-production, artificial insemination, pregnancy diagnosis, and environmental factors affecting reproduction.

**Prerequisite:** ANS 3006 and BSC 2010 and BSC 2010L or equivalents.

**ANS 3384C Genetics of Domestic Animals 3 Credits****Grading Scheme:** Letter Grade

Basic principles of Mendelian, population, and quantitative genetics as applied to improvement of domestic animals. Selection, inbreeding, and crossbreeding strategies for genetic improvement of livestock.

**Prerequisite:** ANS 3006 and BSC 2011 and BSC 2011L or equivalents.**ANS 3404C Food Animal Nutrition and Feeding 4 Credits****Grading Scheme:** Letter Grade

Studies the basic nutrient requirements of food animals, primarily beef cattle and swine, at specific stages of growth, production, and reproduction; and how scientific methods and experimentation are applied to animal nutrition.

**Prerequisite:** ANS 3440.**ANS 3405 Equine Nutrition and Feeding Management 2 Credits****Grading Scheme:** Letter Grade

The influence of growth, reproduction, and work on the nutrient requirements of horses and the application of that information to the planning of life cycle feeding programs.

**Prerequisite:** ANS 3440.**ANS 3440 Principles of Animal Nutrition 4 Credits****Grading Scheme:** Letter Grade

The nutrients required by animals, their functions interrelationships, and processes of utilization; feedstuff composition and their use in diet and ration formulation.

**Prerequisite:** CHM 2045 and CHM 2045L, or equivalent.**ANS 3500L Chicken Growth and Development 1 Credit****Grading Scheme:** Letter Grade

Practical application of the principles of animal growth and development. Uses the chicken as a model to examine how a particular factor such as genetics, sex, nutrition, and more affect growth and development. Also explores broader implications for animals, producers, and consumers.

**Prerequisite:** ANS 3006.**Corequisite:** ANS 3043.**ANS 3613C Value determination of meat animals 3 Credits****Grading Scheme:** Letter Grade

Principles and procedures involved in evaluation, grading, and economic value determination of meat animals and the carcasses they produce.

**Prerequisite:** Junior standing or higher**ANS 3634C Meats 3 Credits****Grading Scheme:** Letter Grade

Integrated studies of the science and technology involved in the utilization of meat animals for food with focus on animal growth, carcass cutability, wholesomeness, palatability, and merchandising of red meat.

**Prerequisite:** ANS 3006.**ANS 3943C Practicum: Weanling Behavior Modification 2 Credits****Grading Scheme:** Letter Grade

This practicum examines equine behavioral modification methods that emphasize a balanced approach for developing an adaptable, responsive young weanling horse using reasonable, achievable training methods.

**Prerequisite:** Junior or Senior status.**ANS 4079C Relationship of Form to Function in Horses 3 Credits****Grading Scheme:** Letter Grade

Principles of conformation and performance evaluation of horses. Studies the anatomy, physiology, and dynamics of the horse as it affects athletic potential and performance.

**Prerequisite:** ANS 3043 or (APK 2100C and APK 2105C).**ANS 4212L Techniques in Farrier Science 1-2 Credits****Grading Scheme:** Letter Grade

How to evaluate and to trim the horse's hoof and to develop a working knowledge of corrective farrier techniques.

**Prerequisite:** Junior or Senior standing.**ANS 4218C Horse Psychology and Training 2 Credits****Grading Scheme:** Letter Grade

Horse behavior, instinct and senses as they relate to training. Principles of training the young foal; ground work, liberty training, and starting the young yearling under saddle; and principles of performance training.

**Prerequisite:** ANS 3006 and ANS 3440.

**ANS 4231 Practicum in Horse Management and Training Technique 1 Credit**

**Grading Scheme:** Letter Grade

Practicum in horse management and training technique

**Prerequisite:** Sophomore standing or higher.

**ANS 4234 Horse Enterprise Management 2 Credits**

**Grading Scheme:** Letter Grade

Management principles essential to the planning and operation of commercial horse enterprises.

**Prerequisite:** AEB 3133 and AGR 4231C and ANS 3217C and ANS 3319C and ANS 3384C and ANS 3405 and ANS 3440.

**ANS 4240C Discovery of Sustainable Cattle Systems 2 Credits**

**Grading Scheme:** Letter Grade

Multidisciplinary experiential learning focused on development of sustainable practices through comprehension and critique of cattle production systems. Encompasses multiple aspects related to cattle systems, including agronomy, human and animal health and nutrition, sociology, and soil science. A key element is the hands-on learning experience where students select a project to carry out on one of the UF/IFAS beef or dairy units.

**Prerequisite:** ANS 3006.

**ANS 4241C Intermediate Horse Training 3 Credits**

**Grading Scheme:** Letter Grade

Continue the training of a recently started under-saddled horse, exhibit horse to potential buyers, and produce annual performance horse sale.

**Prerequisite:** ANS 4218C.

**ANS 4243 Beef Cow-Calf Management 5 Credits**

**Grading Scheme:** Letter Grade

Development and implementation of management programs for commercial cow-calf and purebred beef cattle enterprises.

**Prerequisite:** AEB 3133 and AGR 4231C and ANS 3319C and ANS 3384C and ANS 3404C and ANS 3440.

**ANS 4245 Beef Background and Feedlot Management 2 Credits**

**Grading Scheme:** Letter Grade

Management, marketing, and utilization of beef cattle after weaning. Spring break field trip required.

**Prerequisite:** AEB 3133 and AGR 4231C and ANS 3440 and ANS 3404C and ANS 3613L and ANS 3634C.

**ANS 4318C Equine Reproductive Management 3 Credits**

**Grading Scheme:** Letter Grade

Equine reproduction to include anatomy, the estrous cycle, hormones and pharmacologic manipulation, gametogenesis, embryonic and fetal development, parturition, foal care, assisted technologies, and management strategies.

**Prerequisite:** ANS 3319C.

**ANS 4320C Applied Livestock Reproduction 3 Credits**

**Grading Scheme:** Letter Grade

Provides unique experiences in applied reproductive techniques and management of livestock with rotation through numerous animal teaching units reinforcing classroom curriculum in beef, dairy, equine, small ruminants, and porcine reproduction. Topics include estrus detection, synchronization, management, artificial insemination, ultrasonography, assisted reproductive technologies, semen collection and evaluation, sperm freezing, and embryo handling.

**Prerequisite:** ANS 3319C.

**ANS 4382 Equine Genetics 2 Credits**

**Grading Scheme:** Letter Grade

Examines the underlying mechanisms and inheritance of a number of traits in the horse; includes the impact of domestication on the genome, relationships between breeds, coat color, genetic disease and complex traits of performance and behavior.

**Prerequisite:** ANS 3384C.

**ANS 4383 Genetic analyses of complex traits in livestock 3 Credits**

**Grading Scheme:** Letter Grade

Comprehensive examination of principles of livestock inheritance, QTL mapping strategies and functional genomic approaches used for genomic selection and improvement programs in farm animals.

**Prerequisite:** ANS 3384C or equivalent.

**ANS 4388 Canine and Feline Genetics 3 Credits**

**Grading Scheme:** Letter Grade

Lectures, seminars, and lab exercises on application of genetic principles to canine and feline characteristics provide an in-depth understanding of how these traits are inherited and analyzed. Information on new genomic technologies and their impact on studying specific traits, including coat color and genetic disorders, are discussed.

**Prerequisite:** ANS 3384C or AGR 3303 or PCB 3063 or equivalent.

**ANS 4389L Molecular Techniques in Domestic Animal Genetics 2 Credits****Grading Scheme:** Letter Grade

Studies the principles of basic domestic animal molecular biology techniques and provides hands-on experience through laboratory exercises.

**Prerequisite:** ANS 3384C.**ANS 4605 Animal and Products Evaluation 1 Credit****Grading Scheme:** Letter Grade

Intensive training in animal and animal products evaluation.

**Prerequisite:** instructor permission.**ANS 4623C Pork Production 3 Credits****Grading Scheme:** Letter Grade

Principles of modern pork production, including all aspects of swine production management systems (breeding systems, disease control, applied economics, housing, marketing, pork quality, and nutrition in a systems approach), relative to the US/Global pork supply.

**Prerequisite:** ANS 3006.**ANS 4635C Meat Processing 3 Credits****Grading Scheme:** Letter Grade

Basic principles of the use of muscle as food, process technology, meat inspection, regulations, quality control procedures, and marketing aspects.

**Prerequisite:** ANS 3006 or FOS 3042.**ANS 4701 Physiology of the Mammary Gland and Lactation 2 Credits****Grading Scheme:** Letter Grade

Insight into the endocrinology and physiology of the defining characteristics of mammals: the mammary gland and lactation, focusing on the anatomy and development of the mammary gland with an overview of the biochemical, cellular and molecular processes controlling lactation emphasizing on livestock species.

**Prerequisite:** BSC 2011 and BSC 2011L and ANS 3319C and AG senior.**ANS 4900 Supervised Extension Experience in Animal Sciences 0-3 Credits****Grading Scheme:** S/U

Firsthand, authentic extension experiences in animal sciences under the supervision of a faculty member. Projects may involve program planning, development, implementation, and evaluation.

**Prerequisite:** Instructor permission.**ANS 4905 Problems in Animal Science 1-3 Credits****Grading Scheme:** Letter Grade

Qualified students are assigned a problem involving care and management of livestock or the investigation of a current topic in animal science.

**Prerequisite:** instructor permission.**ANS 4911 Supervised Research in Animal Sciences 0-3 Credits****Grading Scheme:** S/U

Firsthand, authentic research in animal sciences under the supervision of a faculty member. Projects may involve inquiry, design, investigation, scholarship, discovery or application.

**Prerequisite:** Instructor permission.**ANS 4915 Honors Thesis Research in Animal Sciences 0-3 Credits****Grading Scheme:** S/U

Independent research in animal sciences leading to an honors thesis, mentored by a faculty member. Projects may involve inquiry, design, investigation, scholarship, discovery or application. (S-U)

**Prerequisite:** junior standing, upper division GPA of 3.75 or higher and completed honors thesis proposal on file.**ANS 4931 Senior Seminar 1 Credit****Grading Scheme:** Letter Grade

Oral presentation and papers on issues facing the livestock industry.

**Prerequisite:** AL senior.**ANS 4932 Special Topics in Animal Sciences 1-3 Credits****Grading Scheme:** Letter Grade

Special topics in Animal Sciences.

**Prerequisite:** Sophomore standing or higher.**ANS 4941 Full-Time Practical Work Experience in Animal Science 2-8 Credits****Grading Scheme:** S/U

Credit is earned on the basis of one hour per month of employment.

**Prerequisite:** prior arrangement with advisor.

**ATE 2511 Companion Animal Biology and Management 3 Credits**

**Grading Scheme:** Letter Grade

Principles and practices of proper selection, care, nutrition, genetics, reproduction, and training of companion animals, with emphasis on dogs, cats, and selected bird species.

**VME 4103 Livestock Health/Disease Prevention 2 Credits**

**Grading Scheme:** Letter Grade

The principal diseases of livestock and practical methods for their prevention and control.

**Prerequisite:** instructor permission.

---