

Animal Science (ANSC)

Courses

ANSC 500V. Special Problems. 1-6 Hour.

Work in special problems of animal industry. May be repeated for up to 6 hours of degree credit.

ANSC 5013. Domestic Animal Energetics. 3 Hours.

Physical, physiological and biochemical aspects of energy metabolism of domestic animals and their applications to livestock production. Lecture 3 hours per week.

Prerequisite: Graduate standing.

ANSC 5023. Legal Issues in Animal Agriculture. 3 Hours.

(Formerly ANSC 4123.) An issues-oriented course focusing on the legal issues involved in the production of poultry, swine and livestock. Emphasis will center on the laws, regulations and policy arguments involved in animal confinement, antibiotic use, humane slaughter and veterinary medicine, along with other related issues.

The wide range of regulation- from local to state to federal, depending on the issue- will be studied and discussed. Graduate degree credit will not be given for both ANSC 4123 and ANSC 5023.

ANSC 5052. Cow-Calf Management. 2 Hours.

(Formerly ANSC 4252.) Systems of cow-calf management including the practical application of the principles of breeding, feeding, and management to commercial and purebred beef cattle under Arkansas conditions. Graduate degree credit will not be given for both ANSC 4252 and ANSC 5052.

ANSC 510V. Special Topics in Animal Sciences. 1-4 Hour.

Topics not covered in other courses or a more intensive study of specific topics in animal sciences. Prerequisite: Graduate standing. May be repeated for degree credit.

ANSC 5123. Advanced Animal Genetics. 3 Hours.

Specialized study of animal genetics. Lecture 3 hours per week. Prerequisite: ANSC 3123.

This course is cross-listed with POSC 5123.

ANSC 5133. Quantitative Inheritance. 3 Hours.

Advanced study of the genetic basis of variation and the genetic control of quantitative traits in populations. Lecture 3 hours per week. Prerequisite:

ANSC 3133.

ANSC 5143. Biochemical Nutrition. 3 Hours.

Interrelationship of nutrition and physiological chemistry; structure and metabolism of physiological significant carbohydrates, lipids, and proteins; integration of metabolism with provision of tissue fuels; specie differences in regulatory control of tissue and whole body metabolism of nutrients. Prerequisite: CHEM 3813.

This course is cross-listed with POSC 5143.

ANSC 5152. Protein and Amino Acid Nutrition. 2 Hours.

Students will be introduced to the basic processes of protein digestion, amino acid absorption, transport, metabolism, and utilization along with how biochemical function of proteins and their dynamic state affect nutritional status for animals and man. Prerequisite: CHEM 3813.

This course is cross-listed with POSC 5152.

ANSC 5163. Companion Animal Nutrition. 3 Hours.

This course is designed to focus on the digestive anatomy, physiology, and nutrient metabolism of non-herbivorous companion animals, primarily dogs and cats. Topics discussed will also include an overview of the pet food industry, its regulations and commonly utilized ingredients. Students will gain a deeper understanding of nutrition as it relates to life stages and various disease states that can affect both dogs and cats. This course will require a Saturday trip to one or two off campus facilities.

Prerequisite: ANSC 3143 or POSC 4343.

This course is cross-listed with POSC 5163.

ANSC 5253. Advanced Livestock Production. 3 Hours.

Comprehensive review of recent advances in research relative to the various phases of livestock production.

ANSC 5262. Swine Production. 2 Hours.

(Formerly ANSC 4262.) Methods in producing purebred and commercial swine with specific emphasis on the management programs needed for profitable pork production in Arkansas. Graduate degree credit will not be given for both ANSC 4262 and ANSC 5262.

ANSC 5272. Sheep Production. 2 Hours.

(Formerly ANSC 4272.) Purebred and commercial sheep management emphasizing the programs of major importance in lamb and wool production in Arkansas. Graduate degree credit will not be given for both ANSC 4272 and ANSC 5272.

ANSC 5283. Horse Production. 3 Hours.

(Formerly ANSC 4283.) Production, use and care of horses and ponies including breeding, feeding, handling, and management. Lecture 2 hours, laboratory 3 hours per week. Graduate degree credit will not be given for both ANSC 4283 and ANSC 5283. Corequisite: Lab component.

ANSC 5452. Milk Production. 2 Hours.

(Formerly ANSC 4452.) Principles of breeding, feeding, and management of dairy cattle will be studied. Graduate degree credit will not be given for both ANSC 4452 and ANSC 5452.

ANSC 5482. Companion Animal Management. 2 Hours.

(Formerly ANSC 4482.) The study and application of principles of domestication, nutrition, reproduction, parasitology, diseases, behavior, and husbandry management to companion animals. Dogs, cats, and exotic animals will be the species of primary interest. Practical problems of care and management of these species will be solved. Graduate degree credit will not be given for both ANSC 4482 and ANSC 5482. Prerequisite: BIOL 1543 or equivalent or consent of instructor.

ANSC 5553. Forage-Ruminant Relations. 3 Hours.

Advanced chemical, physical, and botanical characteristics of forage plants, the dynamics of grazing, intake and digestion, and techniques of measuring forage utilization and systems analysis at the plant-animal interface. Lecture 3 hours per week. CSES 1203 recommended. Prerequisite: ANSC 3143.

This course is cross-listed with CSES 5553.

ANSC 5652. Stocker-Feedlot Cattle Management. 2 Hours.

(Formerly ANSC 4652.) Production and management systems for stocker and feed-lot cattle including practical applications of forage systems, feeding, health management and economics of production of these livestock. Graduate degree credit will not be given for both ANSC 4652 and ANSC 5652.

ANSC 5743L. Advanced Analytical Methods in Animal Sciences Laboratory. 3 Hours.

Introduction into theory and application of current advanced analytical techniques used in animal research. Two 3-hour laboratory periods per week.

This course is cross-listed with POSC 5743L.

ANSC 5853. Advanced Meats Technology. 3 Hours.

An intensive study of processed meats, relating the science, technology, and quality of further processed meat and poultry products. Product development, sensory and chemical analysis, microbiology, nutritional aspects, and product labeling are covered. Prerequisite: POSC 4314 or ANSC 3613.

ANSC 5901. Seminar. 1 Hour.

Critical review of the current scientific literature pertaining to the field of animal science. Oral reports. Lecture 1 hour per week. Prerequisite: Senior standing.

ANSC 5923. Brain & Behavior. 3 Hours.

Covers cellular through neural systems, major brain functions and comparative neuroanatomy. Topics include ion channels, membrane and action potentials, synaptic integration, neurotransmitters, major brain regions of mammals and birds, sensory systems and the autonomic nervous systems, neuroendocrine system, and control by the brain of critical functions and behavior. Lecture 3 hours per week. Prerequisite: (ANSC 3032 or POSC 3032) or (ANSC 3042 or POSC 3042) or PSYC 2003 or BIOL 2213 or BIOL 2443 or BIOL 2533.

This course is cross-listed with POSC 5923.

ANSC 5932. Cardiovascular Physiology of Domestic Animals. 2 Hours.

Cardiovascular physiology, including mechanisms of heart function and excitation, and blood vessel mechanisms associated with the circulatory system in domestic animals and poultry. Lecture 3 hours; drill 1 hour per week (for second 8 weeks of semester). Pre- or Corequisite: CHEM 3813. Corequisite: Drill component. Prerequisite: (POSC 3032 or ANSC 3032) and (POSC 3042 or ANSC 3042).

This course is cross-listed with POSC 5932.

ANSC 5942. Endocrine Physiology of Domestic Animals. 2 Hours.

Endocrine physiology, including mechanisms of hormone secretion, function, and regulation. Mechanisms associated with the endocrine system will be discussed for domestic animals and poultry. Lecture 3 hours; drill 1 hour per week (or first 8 weeks of semester). Pre- or Corequisite: CHEM 3813. Corequisite: Drill component. Prerequisite: (POSC 3032 or ANSC 3032) and (POSC 3042 or ANSC 3042).

This course is cross-listed with POSC 5942.

ANSC 5952. Respiratory Physiology of Domestic Animals. 2 Hours.

Respiratory physiology, including mechanisms of lung function and gas exchange. Mechanisms associated with the interaction of the respiratory system with other bodily systems in domestic animals and poultry will be discussed. Lecture 3 hours; drill 1 hour per week for first 8 weeks of semester. Pre- or Corequisite: CHEM 3813. Corequisite: Drill component. Prerequisite: (POSC 3032 or ANSC 3032) and (POSC 3042 or ANSC 3042).

This course is cross-listed with POSC 5952.

ANSC 5962. Gastrointestinal/Digestive Physiology of Domestic Animals. 2 Hours.

Gastrointestinal and hepatic physiology, including mechanisms of digestion, absorption of nutrients with emphasis on cellular control mechanisms in domestic animals and poultry. Lecture 3 hours; drill 1 hour per week (for second 8 weeks of semester). Pre- or Corequisite: CHEM 3813. Corequisite: Drill component. Prerequisite: (POSC 3032 or ANSC 3032) and (POSC 3042 or ANSC 3042).

This course is cross-listed with POSC 5962.

ANSC 5972. Renal Physiology. 2 Hours.

Renal physiology, including mechanisms of renal clearance with emphasis on cellular control mechanisms in domestic animals and poultry. Lecture 3 hours; drill 1 hour per week (for second 8 weeks of semester). Pre- or Corequisite: CHEM 3813. Corequisite: Drill component. Prerequisite: (POSC 3032 or ANSC 3032) and (POSC 3042 or ANSC 3042).

This course is cross-listed with POSC 5972.

ANSC 600V. Master's Thesis. 1-6 Hour.

Master's Thesis. Prerequisite: Graduate standing. May be repeated for degree credit.

ANSC 6123. Advanced Food Animal Wellbeing. 3 Hours.

Advances in fundamentals of animal welfare including animal health, animal handling, food safety and productivity. Prerequisite: ANSC 2213 or BIOL 4833 or instructor consent.

This course is cross-listed with POSC 6123.

ANSC 6143. Minerals in Animal Nutrition. 3 Hours.

Mineral nutrients, their sources and functions, as related to nutrition of domestic animals. Lecture 3 hours per week. Prerequisite: ANSC 3143 or POSC 4343.

ANSC 6243. Ruminant Nutrition. 3 Hours.

Anatomy and physiology of the rumen. The nutrient requirements of microbial organisms and the relation of microbial digestion in the rumen to the nutrition of cattle, sheep and other ruminants. Lecture 3 hours per week. Prerequisite: Graduate standing.

ANSC 6343. Vitamin Nutrition in Domestic Animals. 3 Hours.

The vitamins required by domestic animals with emphasis upon their role in animal nutrition, physiological functions, and consequences of failure to meet the requirement of the animal. Lecture 3 hours per week. Prerequisite: ANSC 3143 (or POSC 4343) and CHEM 3813.

This course is cross-listed with POSC 6343.

ANSC 6833. Reproduction in Domestic Animals. 3 Hours.

Comprehensive review of current theory of reproductive function in domestic animals. Lecture 3 hours per week. Prerequisite: ANSC 3433.

ANSC 700V. Doctoral Dissertation. 1-18 Hour.

Doctoral Dissertation. Prerequisite: Graduate standing. May be repeated for degree credit.