Courses

**ANSC 1001L. Introductory to Animal Sciences Laboratory. 1 Hour.**
Study of facilities used in production, processing, and management in animal agriculture. Identification, selection evaluation and testing of livestock, meat, and milk. Laboratory 3 hours per week.

**ANSC 1032. Introductory Animal Sciences. 2 Hours.**
Students will be introduced to biological sciences associated with modern systems of care and management of livestock. Foundation sciences include topics in genetics, growth and development, physiology, nutrition, animal health, and animal behavior. Fall and spring semester.

**ANSC 1032H. Honors Introductory Animal Sciences. 2 Hours.**
Students will be introduced to biological sciences associated with modern systems of care and management of livestock. Foundation sciences include topics in genetics, growth and development, physiology, nutrition, animal health, and animal behavior. Fall and spring semester.

**ANSC 1041. Introduction to Companion Animal Industry. 1 Hour.**
The importance of companion animals and their allied industries will be discussed. Application of scientific principles to the care and management of companion animals, specifically dogs, cats and horses, will be emphasized. Course will meet first eight weeks of the fall and spring semesters.

**ANSC 1051. Introduction to the Livestock Industry. 1 Hour.**
The importance of livestock and their allied industries will be discussed. Application of scientific principles to the care and management of livestock, specifically beef and dairy cattle, swine, sheep, and goats will be emphasized. Meets second eight weeks for fall and spring.

**ANSC 1062. Sustainable Integrated Small Animal Farming. 2 Hours.**
Practical information on small scale animal production, including practical strategies for farm planning, issues of economic and environmental sustainability, best management practices, biosecurity, disease prevention, and farm safety will be presented. This course is cross-listed with POSC 1062.

**ANSC 1123. The Animals in our Lives. 3 Hours.**
Address the controversies and focus on animal welfare, environmental issues and sustainability. This course is cross-listed with POSC 1123.

**ANSC 2003. Introduction to Equine Industry. 3 Hours.**
Examination of careers and business opportunities in the equine industry. Students will gain the opportunity to identify high quality horses through evaluation of conformation and locomotion. Students will also gain skill at oral presentation and be knowledgeable of costs and responsibilities associated with horse ownership. This course is cross-listed with ANSC 2003.

**ANSC 2213. Behavior of Domestic Animals. 3 Hours.**
Behavior associated with domestication. Effects of selective breeding, physical and social environments, and developmental stage on social organization, aggressive behavior, sexual behavior, productivity, and training of domestic animals.

**ANSC 2221L. Livestock Judging and Selection. 2 Hours.**
Preparation to participate in equine judging team activities. Prerequisite: Instructor consent.

**ANSC 2252L. Introduction to Livestock and Meat Evaluation. 2 Hours.**
Develop an understanding between live animal evaluation and carcass composition. Comparative judging including meat evaluation, classification and selection of beef cattle, sheep and swine.

**ANSC 2303L. Introduction to Horsemanship. 3 Hours.**
A study of modern horsemanship training techniques involving the psychology and ethology (reason for the behavior) of equine social behavior and how it pertains to learning patterns; application of fundamental behavioral concepts in training of horses, and modification of desirable and undesirable behavioral patterns. Prerequisite: Instructor consent.

**ANSC 2381. Career Preparation and Development. 1 Hour.**
The importance of preparing for a career in the animal sciences and industries will be covered.

**ANSC 3003. Applied Animal Parasitology. 3 Hours.**
The economically important parasites of domestic animals with emphasis on their host relationships and management considerations. Lecture 2 hours, laboratory 2 hours per week. Corequisite: Lab component.

**ANSC 3013. Parasitisms of Domesticated Non-Herbivores. 3 Hours.**
Course will provide applied instruction and appreciation for the parasitisms of our domesticated swine, chickens, turkeys, dogs and cats.

**ANSC 3032. Animal Physiology I. 2 Hours.**
Fundamental aspects of neural/muscle/bone tissues and the cardiovascular system. The normal structure and functions of these systems will be emphasized. Lecture 2 hours per week. Prerequisite: BIOL 1543 and (CHEM 1123 or CHEM 1073).

**ANSC 3042. Animal Physiology II. 2 Hours.**
Fundamental aspects of renal, respiratory, digestive, and endocrine physiology will be covered. The normal structure and function of these systems will be emphasized. Lecture 2 hours per week. Prerequisite: BIOL 1543 and CHEM 1123 or CHEM 1073.

**ANSC 3072. Equine Selection and Evaluation. 2 Hours.**
Students will learn criteria for evaluation and selection of breeding and show animals and will gain expertise in the evaluation of breed types and show ring characteristics. Includes field trips to various breed operations. Students in this class will be well prepared to participate in equine judging team activities. Prerequisite: Instructor consent.

**ANSC 3123. Principles of Genetics. 3 Hours.**
Fundamentals of heredity, with special emphasis on the improvement of farm animals. Lecture 3 hours per week. Prerequisite: BIOL 1543 and MATH 1203 or higher.

**ANSC 3133. Animal Breeding and Genetics. 3 Hours.**
Application of the principles of genetics to the breeding of farm animals. Lecture 3 hours per week. Corequisite: Drill component. Prerequisite: MATH 1203 or higher.

**ANSC 3143. Principles of Animal Nutrition. 3 Hours.**
Scientific approach to animal nutrition involving the mechanisms through which feed nutrients are utilized by farm animals. Lecture 3 hours per week. Prerequisite: ANSC 1032.

**ANSC 3151L. Applied Animal Nutrition Laboratory. 1 Hour.**
Practical approach to animal nutrition; use of various methods of feedstuff evaluation and ration balancing for domestic animals. Laboratory 2 hours per week. Corequisite: ANSC 3152. Prerequisite: ANSC 3143 and MATH 1203.

**ANSC 3152. Applied Animal Nutrition. 2 Hours.**
Practical approach to animal nutrition; physical and chemical composition of feedstuffs, feed processing and preparation, nutrient interactions, and application of nutritional principles to feeding domestic animals. Lecture 2 hours per week. Corequisite: ANSC 3151L. Prerequisite: ANSC 3143 and MATH 1203.

**ANSC 3282. Livestock Judging and Selection. 2 Hours.**
Comparative judging, including grading, classification, and selection of beef cattle, swine, sheep and horses. Oral and written discussion. Laboratory 6 hours per week. Prerequisite: ANSC 1032 or ANSC 2252L.
ANSC 3291. Livestock Junior Judging Team Activity. 1 Hour.
Training for membership on judging teams, through participation.

ANSC 3333. Diseases of Livestock. 3 Hours.
Introductory study of the diseases of farm animals with emphasis on fundamental
principles of disease, body defense mechanisms, hygiene, and sanitation.
Prerequisite: BIOL 1543.

ANSC 3433. Fundamentals of Reproductive Physiology. 3 Hours.
Principles of mammalian reproductive physiology with emphasis on farm animals.
Lecture 3 hours per week. Pre- or Corequisite: ((CHEM 1073 and CHEM 1071L) or
(CHEM 1123 and CHEM 1121L) or (CHEM 2613 and CHEM 2611L) or (CHEM 3603
and CHEM 3601L)) and ANSC 2252L and ANSC 2781 and BIOL 2013 and
BIOL 2011L. Prerequisite: BIOL 1543.

ANSC 3491L. Artificial Insemination in Cattle. 1 Hour.
Experience with artificial insemination technique in cattle including estrus detection,
semen storage and handling, insemination equipment maintenance and technique.
Laboratory 4 hours per week. The course is offered the second 8 weeks of the
spring semester. Prerequisite: ANSC 3433 or instructor consent.

ANSC 3513. Current Approaches in Agricultural Laboratory Research. 3 Hours.
A laboratory course to introduce students to current laboratory research techniques
used in agricultural and life sciences. Hands-on laboratory exercises will emphasize
current cellular and molecular research techniques, laboratory notebook keeping,
data interpretation, and presentation of results. Prerequisite: BIOL 1543.

ANSC 3613. Meat Science. 3 Hours.
The study of meat science and muscle biology. Topics will include animal/tissue
growth and development and the relationship to meat quality. Meat processing,
preservation, and meat safety concerns will also be considered. Lecture 3 hours per
week. Prerequisite: CHEM 2613 or CHEM 3603.

ANSC 3723. Horse and Livestock Merchandising. 3 Hours.
Various types of merchandising programs for specific livestock enterprises will be
presented. Students will evaluate the effectiveness of merchandising programs
including how to organize, advertise, and manage a purebred auction sale of
livestock.

ANSC 3753. Equine Assisted Activities and Therapies. 3 Hours.
Animal Science 3753 introduces students to the field of equine assisted activities
and therapies. A variety of approaches, therapeutic settings and client populations
will be addressed with an emphasis on equine behavior. Students will gain
experience in the practical application of an equine assisted therapy program.

ANSC 400V. Special Problems. 1-6 Hour.
Special problems in the animal sciences for advanced undergraduate students. May
be repeated for up to 6 hours of degree credit.

ANSC 401V. Internship in Animal Sciences. 1-6 Hour.
Supervised work experience with private or government organizations Prerequisite:
Junior standing. May be repeated for up to 6 hours of degree credit.

ANSC 4072. Advanced Equine Selection and Evaluation. 2 Hours.
Advanced evaluation and selection of breeding and show animals, evaluation of
breed types and show characteristics. Field trips to breeding operations. Competitive
Judging team members come from this course and participation in competitive
events will be required. Prior equine evaluation is not necessary, but instructor
consent is required. Some Saturday activities. Prerequisite: ANSC 3072 or instructor
consent.

ANSC 410V. 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. May be repeated for degree credit.

ANSC 410VH. Honors 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: Honors standing. May be repeated for degree credit.

ANSC 4123. Legal Issues in Animal Agriculture. 3 Hours.
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.
This course is cross-listed with AGEC 4123, POSC 4123.

ANSC 4142. Advanced Animal Handling Techniques. 2 Hours.
This course is designed to familiarize students with handling techniques of a variety
of animals, including cattle, sheep, horses, pigs, dogs, and others. Students will
learn and practice handling, restraint, and common husbandry procedures with a
variety of domestic species. The course will provide valuable preparation for careers
in livestock management, vet medicine, animal-based research, and other fields in
animal science. Prerequisite: Junior standing or consent.

ANSC 4163. 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.

ANSC 4173. Thoroughbred Horse Industry. 3 Hours.
This course is designed to give you an overview of the Thoroughbred breed and
industry. Students will gain an understanding of the Thoroughbred industry, it's
history, and modern practices. Students will also gain an understanding of career
potential in the Thoroughbred industry. Prerequisite: Instructor consent or Junior or
Senior standing.

ANSC 4252. Cow-Calf Management. 2 Hours.
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. Prerequisite: AFLS BSA students with ANSC 1032 and
Junior standing or higher.

ANSC 4262. Swine Production. 2 Hours.
Methods in producing purebred and commercial swine with specific emphasis on the
management programs needed for profitable pork production in Arkansas. Pre-
or Corequisite: AFLS BSA students with ANSC 1032 and Junior standing or higher.

ANSC 4272. Sheep Production. 2 Hours.
Purebred and commercial sheep management emphasizing the programs of major
importance in lamb and wool production in Arkansas. Prerequisite: AFLS BSA
students with ANSC 1032 and Junior standing or higher.

ANSC 4283. Horse Production. 3 Hours.
Production, use and care of horses and ponies including breeding, feeding, handling,
and management. Lecture 2 hours, laboratory 3 hours per week. Corequisite: Lab
component. Prerequisite: Junior standing or higher.

ANSC 4291. Livestock Senior Judging Team Activity. 1 Hour.
Training for membership on judging teams, through participation.

ANSC 4303. Comparative Veterinary Anatomy. 3 Hours.
Study of structures and principles of anatomy of major domestic species. The dog,
horse, and cow will be used as models for anatomical structures and the application
of anatomical knowledge in animal science; focus on veterinary applications. 3 hours
of lecture each week. Spring semesters. Corequisite: Lab component. Prerequisite:
ANSC 1032 or BIOL 1543, junior standing or instructor consent.

ANSC 4452. Milk Production. 2 Hours.
Principles of breeding, feeding, and management of dairy cattle will be studied.
Prerequisite: AFLS BSA students with ANSC 1032 and Junior standing or higher.
ANSC 4482. Companion Animal Management. 2 Hours.
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. Prerequisite: BIOL 1543 or equivalent or consent of instructor.

ANSC 4552. Forage-Ruminant Relations. 2 Hours.
Chemical, physical, and botanical characteristics of forage plants, the dynamics of grazing, intake, digestion, behavior, and nutrient cycling at the plant-animal interface. CSES 1203 recommended. Prerequisite: ANSC 3143.

ANSC 4652. Stocker-Feedlot Cattle Management. 2 Hours.
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. Prerequisite: AFLS BSA students with ANSC 1032 and Junior standing or higher.

ANSC 4923. 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 4923.

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.

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.

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: (ANSC 3032 or POSC 3032) and (ANSC 3042 or POSC 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: (ANSC 3032 or POSC 3032) and (ANSC 3042 or POSC 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: (ANSC 3032 or POSC 3032) and (ANSC 3042 or POSC 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: (ANSC 3032 or POSC 3032) and (ANSC 3042 or POSC 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: (ANSC 3032 or POSC 3032) and (ANSC 3042 or POSC 3042).
This course is cross-listed with POSC 5972.

ANSC 600V. Master's Thesis. 1-6 Hour.
Master's Thesis. 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 6633. 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.