ANIMAL SCIENCE (ANSC)

ANSC 1119. Animal Science Laboratory. 1 Hour. [TCCN: AGRI 1119]
Laboratory for ANSC 1319. Course Equivalents: AGRI 1119
Prerequisite: Concurrent enrollment in ANSC 1319.

ANSC 1319. Animal Science. 3 Hours. [TCCN: AGRI 1319]
This is a basic course of study to acquaint students with the scope of animal science: origin, history and development of economically important species and breeds of livestock; concepts of selection, breeding, nutrition, management and research as applied to livestock production. Laboratory experiences (ANSC 1119) involve the practical skills needed to manage animal enterprises. Course Equivalents: AGRI 1319
Prerequisite: Concurrent enrollment in ANSC 1119.

ANSC 2321. Livestock Evaluation & Selection. 3 Hours. [TCCN: AGRI 2321]
This course is designed to present the basic principles and concepts in selection and evaluation of beef cattle, sheep, swine, and horses. The ability to present accurate and concise oral reasons for selecting and placing livestock is reviewed. Course Equivalents: AGRI 2321 .

ANSC 2330. Companion Animal Science. 3 Hours.
This course is an overview of the companion animal industry, including species and breeds, feeding and nutrition, reproduction, anatomy and physiology, care, management, training, health, behavior, and current research topics related to companion animals. Course Equivalents: AGRI 2330
Prerequisite: ANSC 1319 with a grade of C or better.

ANSC 2340. Application of Small Animal Behavior Modification. 3 Hours.
Students study instincts and behaviors of small animals and explore how to apply the knowledge to properly interact and train animals. Students learn training techniques that ensure animals are stable, well-behaved, and unobtrusive. Topics include inherited and learned behaviors, environmental considerations, and training techniques for positive behavioral modifications.

ANSC 2350. Food Safety and Regulation. 3 Hours.
Students gain knowledge in the microbiology of human foods and standard industry techniques of inspection and control. Topics include microbiological threats from human food, origins of foodborne illnesses, good manufacturing practices and standard operating procedures, Hazard Analysis and Critical Control Point (HACCP) principles specifically related to meat and poultry, food safety regulations, and regulatory agencies.
Prerequisite: ANSC 1319.

ANSC 2360. Animals and Society. 3 Hours.
This course acquaints the student with the broad role of animals in society from national, global, and historic perspectives. The impact of animals and domestic livestock on economic, social, and political policy are discussed. Emphasis is placed on agricultural and non-agricultural uses, societal and cultural perspectives, consumer influences, animal ethics, animal research, appropriate animal care, livestock quality assurance programs, animal welfare, animal rights and the animal-human bond. Course Equivalents: AGRI 2360 .

ANSC 2370. Introduction to Poultry Science. 3 Hours.
Students gain knowledge in poultry farming and management, along with information about employment opportunities in the poultry industry. Topics may include common breeds used, the breakdown of the industry, while also learning about management practices for each sector of the industry.
Prerequisite: ANSC 1319.

ANSC 2396. Special Topics in Animal Science. 3 Hours.
Students examine special topics/issues in Animal Science at an introductory level. This course may be repeated up to three times as topics and subject matter changes.

ANSC 3336. Livestock Marketing. 3 Hours.
Students study livestock marketing techniques, cash sales, risk management, forward contracting, problem solving using real-time livestock marketing situations, and risk of ownership in hypothetical livestock operations. Course Equivalents: AGRI 3336
Prerequisite: ANSC 1319 with a grade of C or better and Sophomore standing.

ANSC 3363. Anatomy & Physiology of the Domestic Animal. 3 Hours.
Students are introduced to anatomy and physiology of domestic animals. Aspects of the nervous, skeletal, muscular, circulatory, urinary, and endocrine systems are covered. Course Equivalents: AGRI 3363
Prerequisite: ANSC 1319 with a grade of C or better and Sophomore standing.

ANSC 3373. Animal Nutrition. 3 Hours.
This course consists of a scientific study of the processes of digestion, absorption, metabolism, physiology, and circulation of water, proteins, carbohydrates, lipids, vitamins, and minerals. Each nutrient is studied from the standpoint of chemistry, sources, function, and metabolism. Course Equivalents: AGRI 3373
Prerequisite: ANSC 1319 with a grade of C or better, 4 Credits in CHEM, and Sophomore standing.

ANSC 3376. Meat Science. 3 Hours.
Lecture topics may include muscle and skeletal biology, conversion of muscle to meat, food-borne illnesses, and HACCP. Labs focus on the methods of harvesting, preparation, preserving, and storing meat. Course Equivalents: AGRI 3376
Prerequisite: ANSC 1319 with a grade of C or better and Sophomore standing.

ANSC 3377. Meat and Muscle Biology. 3 Hours.
Students examine fundamental principles of muscle structure, function, fiber type, and repair, as well as the physiological transformation of muscle to an edible product. Additionally, students investigate how each of the characteristics of muscle affect the ultimate quality of a product through its conversion into meat.
Prerequisite: ANSC 1319 with a grade of C or better and Sophomore standing.

ANSC 4310. Animal Growth & Performance. 3 Hours.
Students study the physiological and endocrine system factors affecting growth and performance of domestic animals. The course may include the study of meat animal growth and developmental processes and factors that affect body/carcass composition, carcass quality and value. Course Equivalents: AGRI 4310
Prerequisite: ANSC 3373 and Junior standing.

ANSC 4336. Stocker & Feedlot Management. 3 Hours.
Students evaluate the basic principles involved in feeding, management, marketing, and disease control of stocker and feedlot cattle for economical production of beef. A review of scientific knowledge and research advances is applied to modern stocker and feedlot cattle operations. Course Equivalents: AGRI 4336
Prerequisite: ANSC 1319 with a grade of C or better and Junior standing.

ANSC 4337. Behavior and Management of Domestic Animals. 3 Hours.
Students study behavior associated with domesticated animals. The effects of selective breeding, physical and social environments, and the developmental stage on social organization are studied. Additionally, aggressive behavior, sexual behavior, productivity, and the training of domestic animals are examined. Course Equivalents: AGRI 4337
Prerequisite: ANSC 1319 with a grade of C or better and Junior standing.

ANSC 4339. Advanced Livestock and Horse Evaluation. 3 Hours.
Students engage in an advanced study of the visual appraisal, grading, and evaluation techniques affiliated with livestock and horses. The evaluation of conformation is studied along with the influence of heredity and environmental factors, industry trends and standards, and performance and production factors. Junior standing. Course Equivalents: AGRI 4339
Prerequisite: ANSC 2321 or ANSC 2390.

ANSC 4360. Livestock Management Techniques. 3 Hours.
Students explore skills and knowledge pertaining to the production of beef cattle, swine, goats, sheep, and horses. Laboratory exercises involve various management practices and selection of livestock based on visual evaluation and genetic performance. This course is not intended for animal science majors. Course Equivalents: AGRI 4360
Prerequisite: ANSC 1319 with a grade of C or better and must have completed 55 hours of coursework.

ANSC 4369. Animal Science Special Topics. 3 Hours.
Students examine special topics/issues in Animal Science at an advanced level. This course may be repeated up to three times as topics and subject matter change.
Prerequisite: Junior standing.

ANSC 4376. Sheep & Goat Production & Management. 3 Hours.
Student study the application of basic genetic principles, physiology, and nutrition to practical sheep, meat goat, and Angora goat production systems; management; health care: and marketing of animals and fiber. Course Equivalents: AGRI 4376
Prerequisite: ANSC 1319 with a grade of C or better Junior standing.

ANSC 4380. Beef Cattle Production & Management. 3 Hours.
Students study basic principles and methods of breeding, nutrition, reproduction, management, marketing, and disease control relating to various segments of the beef industry. Application of the latest bovine research is reviewed. Laboratory exercises involve practical skills relating to performance records and management of beef cattle. Course Equivalents: AGRI 4380
Prerequisite: ANSC 1319 with a grade of C or better and Junior standing.

ANSC 4389. Animal Reproduction. 3 Hours.
Students explore the physiology of the male and female reproductive tract; hormones governing reproduction; the estrous cycle; mating; gestation; parturition; lactation; artificial insemination; embryo transfer technology; and factors affecting reproductive efficiency of common animal species used for agricultural purposes. Junior standing. Course Equivalents: AGRI 4389
Prerequisite: ANSC 1319 with a grade of C or better.

ANSC 4393. Animal Legal Issues. 3 Hours.
Students examine legal issues and laws that affect animal ownership, handling, transport, and other prominent interactions between humans, animals, and society. Differences between criminal, civil, and tort law are discussed, as well as the differences between written and case law, and the penalties and ramifications of violating these laws.
Prerequisite: ANSC 1319 with a grade of C or better and Junior standing.

ANSC 4394. Animal Feeds And Feeding. 3 Hours.
Students study the characteristics of feedstuffs; a review of the essential nutrients and digestion; ration and mixture formulation; feeding methods; and nutritional management of beef, swine, sheep, goats, poultry, and horses. Exercises consist of practical applications in formulating rations for livestock using conventional techniques and computers. Course Equivalents: AGRI 4394
Prerequisite: ANSC 3373, and C or better in MATH and Senior standing.

ANSC 4395. Animal Breeding & Genetics. 3 Hours.
Student explore the application of genetic principles to livestock improvement. Student study the genetic basis of selection and systems of mating, and the development of breeding programs based on the principles of population genetics. Course Equivalents: AGRI 4395
Prerequisite: ANSC 1319 with a grade of C or better and Junior standing.

ANSC 4397. Disaster/Emergency Management in Agriculture. 3 Hours.
Students learn key information and tactical strategies to prepare evacuation plans and protocols for animal agriculture business ventures while understanding the management and implementation of plans from a community perspective. Topics may include risk and hazard assessment; processes to identify critical control points, resources, and agencies necessary to build effective plans of action and mitigation agreements for disaster preparedness; and implementation of tactical plans involving animal and agricultural enterprises.
Prerequisite: ANSC 1319 with a grade of C or better and Junior standing.

ANSC 4398. Animal Diseases & Public Health. 3 Hours.
Student study diseases shared in nature between animals and man. Emphasis is placed on how these diseases exist in natural environments, modes of transmission, and methods of control and prevention. Students explore infectious agents and the clinical signs that they cause in both humans and animals. Course Equivalents: AGRI 4398
Prerequisite: ANSC 1319 with a grade of C or better and junior standing.