Department of Animal Sciences (ANSC)

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The main function of the Department of Animal Sciences is to produce qualified graduates capable of serving the region in all areas of animal science: research, services, business, and education.

The department participates in offering courses within the FAFS undergraduate core program. Selected senior courses that cover areas of major importance in animal agriculture (i.e., nutrition, physiology, management, production) are also offered to students wishing to select an area of emphasis in animal sciences.

The department also offers the BS degree in Veterinary Science at FAFS prepares the graduates for life-long learning and professional advancement in the field. Students will get the solid basics in animal health, husbandry, nutrition, and breeding. The curriculum is integrative, multidisciplinary and multifunctional allowing graduates to have broader abilities in finding jobs in the local, regional and world market. This program will also prepare students to pursue their graduate studies in poultry and animal sciences as well as in the basic medical sciences.

The following courses are offered by the department:

Course Descriptions

Core Courses for the BS Degree in Agriculture

**ANSC 222  General Livestock Production**  2.3; 3 cr.
Modern principles and practices in beef, sheep, and dairy production and reproduction.

**ANSC 224  Agricultural Microbiology**  2.3; 3 cr.
A course that covers basic and applied microbiology. The basic microbiology includes bacteriology, virology, parasitology, and immunology, and the applied microbiology includes veterinary, soil and water, and food microbiology.

**ANSC 226  Poultry Production**  2.3; 3 cr.
Modern principles and practices in poultry production with special emphasis on Middle Eastern conditions. Prerequisite: ANSC 271.
ANSC 243  Genetics  
Principles of inheritance, with an introduction to modern genetics.  
3.0; 3 cr.

ANSC 271  Animal Nutrition  
Structure and functioning of digestive systems of livestock and poultry; bioenergetics, nutritional 
deficiencies, and nutrient requirements of farm animals.  Prerequisite: NFSC 261.  
3.0; 3 cr.

ANSC 275  Anatomy and Physiology of Farm Animals  
Systematic anatomy and physiology of farm animals.  
3.0; 3 cr.

Elective Courses for the BS Degree in Agriculture

ANSC 241  Principles of Dairying  
Management, housing, feeding, breeding, and record-keeping in dairy production.  
2.3; 3 cr.

ANSC 242  Small Ruminant Production in Arid Regions  
Breeding, feeding, and management of sheep and goats under arid conditions.  
2.3; 3 cr.

ANSC 276  Animal Physiology Laboratory  
Pre- or co-requisite: ANSC 275.  
0.3; 1 cr.

ANSC 277  Animal Breeding  
Principles of permanent improvement of animal and poultry production.  Prerequisite: AGRL 243 or 
BIOL 223.  
2.0; 2 cr.

ANSC 278  Feeds and Feeding  
Characteristics, conservation, and preparation of feeds; feeding of various classes of livestock.  
2.3; 3 cr.

ANSC 279  Companion Pet Birds and Animals  
Breed and stock selection, equipment, stocking densities, routine management, rearing, feeding, 
behavior and interaction with humans, optimum production, and health care of pet birds and pet 
animals.  Open only to non-science majors.  
3.0; 3 cr.

ANSC 280  Aquarium, Marine, and Farming Fish  
A course that covers the different fishing techniques, fish farming, characteristics of fish, comparison 
of classes of fish, the setup of fresh water and marine aquariums, and the common diseases of fish.  
3.0; 3 cr.

ANSC 281  Production of Novel Avian Species  
Management practices in the production of economically beneficial avian species other than the 
domestic chicken (e.g., ratites, turkey, water fowl, etc.).  
3.0; 3 cr.

ANSC 282  Pet Birds and Animals  
A course that describes the anatomy and physiology of pets belonging to mammalia, reptilia, aves, 
and osteichthyes. The history, classification, breeds, selection, rearing, feeding, production, and 
health of sixteen pets will be studied.  Prerequisite: BIOL 200.  
3.0; 3 cr.

ANSC 299  Special Topics in Animal Sciences  
Directed study. Tutorial.  Prerequisites: fourth year standing and consent of instructor.  
2 cr.
Core Courses for the BS Degree in Veterinary Science

VET 201  Microbiology I+II (Bacteriology and Virology) 2 cr.
The course summarizes the main characteristics of bacteria, fungi and viruses including their morphology, resistance, molecular structure, virulence factors, antigenicity, and animal and human pathogenicity.

VET 202  Animal Breeding and Genetics I 2 cr.
The course introduces the principles of Mendelian and population genetics and their application in breeding, improvement and management of farm, companion and pet animals with the goal of profitable animal production and improved health status. Selection and breeding methods are elaborated in addition to basic topics related to biotechnological advances in this field and its role in relation to other aspects of animal production.

VET 203  History of Veterinary Medicine 1 cr.
The course explores the beginnings of veterinary medicine from Ancient times to the middle ages and ending with modern times and the specializations and different branches in veterinary medicine.

VET 204  Pathology I 2 cr.
The course is divided into two main topics. General pathology describes the causes and the common nature of disease processes including the genetic and immunological disorders, inflammation, neoplasia, and malformation. Systemic pathology discusses the pathological changes of specific diseases according to the organ-systems and the whole pathology of certain infectious and non-infectious diseases in detail.

VET 205  Topographic and Applied Anatomy 2 cr.
The course is divided into six major sections starting with the palpable landmarks of the body followed by the topography of the thorax, abdomen, pelvic cavity and ending with the limbs. Superficial veins, sites of venous blood sampling, investigation points will be explored in different body parts.

VET 206  Clinical Diagnostics 2 cr.
The course deals with examination techniques and symptomology of internal diseases. The course is organized according to organs and organic systems, with special attention to the corresponding instrumentation used and species specific differences.

VET 207  Microbiology III (Veterinary Immunology) 2 cr.
The subject introduces the protective functions of the hosts to different microbes, and the humoral and cellular immune system, and provides the theoretical background of immune-prophylaxis against infectious diseases.

VET 208  Animal Breeding and Genetics II 2 cr.
The course teaches the general and specific significance of cattle, swine, sheep, goat, horse, poultry, dog, cat and fur animal breeding in the world. It introduces the main productive characteristics of the internationally recognized breeds and types of the above mentioned species. The various methods of applied breed improvement and heritable diseases are discussed in detail according to the different species. The local aspects and facilities receive particular emphasis.
VET 209 Animal Nutrition + Dietetics I  2 cr.
The subject consists of an introduction to the basics of animal nutrition, characteristics of feedstuffs, animal feeding, and nutrition. The effect of different feedstuffs and feed additives on the animals’ health, production, and reproduction will be addressed, in addition to the techniques of balanced ration formulation.

VET 210 Applied Ethology  2 cr.
Applied ethology is the branch of animal science, which on the basis of the description of the innate behavior of farm animals and pets, studies the behavior of animals kept in intensive farming systems or, in the case of companion animals, kept in the close vicinity of humans. It also studies the effects of housing, nutrition, and attendants’ care on the establishment of behavioral patterns. This subject also deals with the formation, prevention, and treatment of abnormal behavior (misbehavior, ethostasis) and describes ethical aspects of animal welfare.