

ANIMAL SCIENCES (ANSC)

ANSC 801 - Physiology of Reproduction

Credits: 4

Comparative aspects of embryology, anatomy, endocrinology, and physiology of reproduction. Lab.

ANSC 808 - Ruminant Nutritional Physiology

Credits: 3

Anatomy of the ruminant gastrointestinal tract, physiological factors related to rumen function, and microbial and whole-body metabolism of carbohydrates, protein, and lipids. Prereq: general microbiology or equivalent.

ANSC 810 - Dairy Nutrition

Credits: 4

Feeding and related management of dairy cows, nutrients and their use, digestive anatomy, physiology, energy systems, forage quality and conservation methods, metabolic disorders, ration balancing. Prereq: principles of nutrition; nutritional biochemistry or equivalent, permission.

ANSC 814 - Research Methods in Endocrinology

Credits: 5

Principles of biochemical, cellular and molecular techniques and their applications to research in the endocrine system. Techniques include protein and nucleic acid assays, thin layer chromatography, radioimmunoassay, enzyme-linked immunosorbent assay, agarose and polyacrylamide gel electrophoresis, transfection, restriction analysis, plasmid amplification, RNA extraction, and dot-dot hybridization. Seven lab reports required. Prereq: physiology of reproduction or general biochemistry or endocrinology; permission. Special fee. Lab.

ANSC 815 - Physiology of Lactation

Credits: 4

Examines the biological and biochemical influences of the lactation process. Emphasis on the physiological effects of environments, hormones, and nutrition on milk synthesis and secretion, mammary physiology, and maternal response. Prereq: physiology of reproduction, permission.

ANSC 818 - Mammalian Physiology

Credits: 4

Advanced study of the systems that control mammalian functions with emphasis on cellular and molecular mechanisms. Includes the nervous, muscular, cardiovascular, renal, gastrointestinal, and endocrine systems. Prereq: BMS 501 or BMS 503-504; GEN 604. Permission required.

ANSC 824 - Reproductive Management and Artificial Insemination

Credits: 4

Focus on goals and fundamentals of reproductive management of horses, dairy and livestock animals, and, through experience, development of competency in performing modern breeding techniques for equine or bovine reproduction. Permission required. Special fee. Lab.

ANSC 827 - Advanced Dairy Management I

Credits: 4

Advanced management evaluation of milking procedures, reproduction, nutrition, mastitis, and calf and heifer management. Prereq: principles of nutrition, permission.

ANSC 828 - Advanced Dairy Management II

Credits: 4

Advanced management evaluation of dairy cattle, housing milking equipment, milk quality, record keeping, herd health, financial, personnel management, environmental issues. Visits to farms in the area to provide critical assessments of dairy farm businesses. Prereq: advanced dairy management I, permission. Special fee.

ANSC 853 - Cell Culture

Credits: 5

Principles and technical skills fundamental to the culture of animal and plant cells, tissues and organs. Introduction to the techniques of sub culturing, establishing primary cultures, karyotyping, serum testing, cloning, growth curves, cryopreservation, hybridoma formation and monoclonal antibody production, and organ cultures. Application of cell culture to contemporary research in the biological sciences. Prereq: general microbiology and lab. Special fee. Lab.

ANSC 895 - Investigations

Credits: 1-4

Investigations in genetics, nutrition, management, diseases, histology, equestrian management/agribusiness, physiology, cell biology, microbiology, dairy management, or teaching experience. May be repeated up to a maximum of 4 credits. Prereq: permission.

ANSC 899 - Master's Thesis

Credits: 1-6

Master's students must enroll for a total of 6 credits of this course. Students may enroll in 1-6 credits per semester. Cr/F.

ANSC 900 - Contemporary Topics in Animal, Nutritional, and Biomedical Sciences

Credits: 1

An informal forum for graduate students to gain experience in evaluating the current literature of a contemporary topic. (Also offered as NUTR 900.) May be repeated for a maximum of 2 credits. Offered both fall and spring semesters. Cr/F.

ANSC 902 - Philosophy of Research in the Life Sciences

Credits: 2

Designed to acquaint master's and doctoral students (second year and beyond) with the theories and principles for understanding, designing, conducting, and communicating research in the Life Sciences. Readings and class discussions will focus on issues such as: What is research? How is it performed? How is validity determined? How are isolated findings integrated into a coherent system? What is the social context? Offered fall semester.

ANSC 913 - Contemporary Topics in Immunobiology

Credits: 2

Topical lectures, seminars, and assigned reading emphasizing recent advances in immunology. May be repeated for a maximum of 4 credits. (Offered in alternate years.)

ANSC 995 - Non-thesis Investigations in Animal Science

Credits: 1-4

Advanced investigations in a research project, exclusive of thesis project. Elective only after consultation with the instructor. May be repeated for a maximum of 4 credits. Offered both fall and spring semesters.

ANSC 999 - Doctoral Research

Credits: 0

Cr/F.