

ANIMAL SCIENCE (ANSC)

ANSC 5004. Introduction to Data Analysis in Agriculture. (3 Credits)

Concepts of data analysis applied to agriculture. Introduction to R/Rstudio and basic elements of coding, data management, data cleaning, graphics, and statistical analysis. The course covers software installation, basic and intermediate usage, and some of the common data analysis tools used in agricultural research. Additionally, the course covers some basic examples of bioinformatics that are commonly used in agriculture. Course includes recorded lectures, notes, homework, two small data analysis projects, and a capstone data analysis project.

Enrollment Requirements: Instructor consent.

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ANSC 5601. Experimental Design in Animal Science. (3 Credits)

Discussion of the basic principles of design and analysis for experiments in animal and food science. Both theory and practical application of designing experiments will be included. Emphasis is placed on data analysis using SAS, highlighting determination of the most appropriate analysis for an experiment and interpretation of output.

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ANSC 5613. Growth and Metabolism of Domestic Animals. (3 Credits)

An assessment of animal growth and metabolism interrelated to nutrition, selection, environment, production and idiosyncrasies among species.

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ANSC 5614. Advanced Animal Nutrition. (3 Credits)

A comparative study of nutritional, physiological, microbiological, immunological and biochemical aspects of digestion and metabolism in the non-ruminant and ruminant animal. Topics include digestive system structures, utilization of nutrients, energy metabolism, control of nutrient metabolism, and experimental techniques used in the study of animal nutrition. Feedstuffs appropriate to meet nutrient requirements and ration formulation across various physiological stages, growth, gestation, and lactation will be covered in this course. There will be a focus on developing critical thinking skills, reading current literature, and assimilating scientific concepts in written and oral forms.

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ANSC 5615. Comparative Exercise Physiology. (3 Credits)

In depth discussion of the effects of exercise on the body with emphasis placed on the physiological mechanisms which allow for adaptation to periods of exercise and inactivity. Idiosyncrasies among the athletic species will be highlighted.

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ANSC 5616. Endocrinology of Farm Animals. (3 Credits)

In depth discussion on endocrine systems and endocrine function in farm animals with emphasis on hormones involved in metabolism, growth, lactation, feed intake and digestion in cattle, pigs, horses and poultry.

View Classes (<https://catalog.uconn.edu/course-search/?details&code=ANSC%205616>)

ANSC 5618. Probiotics and Prebiotics. (3 Credits)

Biology, uses, effectiveness and safety of probiotics and prebiotics. Molecular mechanisms underlying the health benefits attributed to the consumption of pre and probiotics. Application of pre and probiotics to promote human and animal health, including safety and regulation. A background in general microbiology or concurrent registration in a microbiology course is recommended.

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ANSC 5619. Signaling Pathways. (3 Credits)

Principles of cell signaling transduction. Major cellular regulatory pathways and interactions between pathway components. Regulatory mechanism of various cellular processes via specific signaling network, and methods used for studying cell-signaling pathways.

Enrollment Requirements: Recommended preparation: Previous three-credit course in cell biology, molecular biology, or biochemistry.

View Classes (<https://catalog.uconn.edu/course-search/?details&code=ANSC%205619>)

ANSC 5621. Frontiers in Animal Embryo Biotechnology. (3 Credits)

Focuses on the epigenetics and molecular aspects of embryology such as genomic imprinting and X inactivation. Introduces the state of numerous established and emerging embryo biotechnologies such as assisted reproductive technologies; gamete cryopreservation; transgenesis; nuclear transfer (cloning); gene targeting/genome editing; xenotransplantation; embryonic and tissue stem cells, induced pluripotent stem cells and their applications.

View Classes (<https://catalog.uconn.edu/course-search/?details&code=ANSC%205621>)

ANSC 5640. Animal Food Products: Dairy Technology. (3 Credits)

Production and processing of milk and milk products from a food science perspective, including chemical, physical, and microbiological components. Technological aspects of the transformation of milk into various food products. Public health regulations, good manufacturing practices, cleaning and sanitizing procedures. Unit operations in dairy food manufacturing, packaging, labeling, and quality control procedures.

View Classes (<https://catalog.uconn.edu/course-search/?details&code=ANSC%205640>)

ANSC 5641. Food Chemistry. (3 Credits)

Chemical, physical and biological changes in foods and food macromolecules that occur during processing and storage that affect texture, color, flavor, stability and nutritive qualities. Field trips may be required.

View Classes (<https://catalog.uconn.edu/course-search/?details&code=ANSC%205641>)

ANSC 5643. Muscle Biology and Muscle Food Chemistry. (3 Credits)

Molecular and cellular basis of muscle food physical features and its related muscle biological events.

Enrollment Requirements: Open only to graduate students.

Recommended Preparation: ANCS 3343 or CHEM 2241 or CHEM 2443 or one same-level chemistry class.

View Classes (<https://catalog.uconn.edu/course-search/?details&code=ANSC%205643>)

ANSC 5683. Graduate Teaching Experience. (1 Credit)

Mentored experience in developing and presenting lectures and/or laboratory activities for existing ANSC undergraduate courses.

May be repeated for a total of 3 credits

View Classes (<https://catalog.uconn.edu/course-search/?details&code=ANSC%205683>)

ANSC 5692. Research. (1-6 Credits)

Independent research in animal science, livestock production, meats, dairy production, animal nutrition, growth, reproductive physiology, animal breeding, or environmental health.

May be repeated for a total of 24 credits

View Classes (<https://catalog.uconn.edu/course-search/?details&code=ANSC%205692>)

ANSC 5693. Graduate Presentation Skills. (1 Credit)

A discussion-based class that prepares students to make oral presentations.

View Classes (<https://catalog.uconn.edu/course-search/?details&code=ANSC%205693>)

ANSC 5694. Animal Science Seminar. (1 Credit)

Students present a seminar on the topic of their thesis research.

May be repeated for a total of 2 credits

View Classes (<https://catalog.uconn.edu/course-search/?details&code=ANSC%205694>)

ANSC 5695. Special Topics in Animal Science. (1-6 Credits)

May be repeated for credit with a change of topic.

May be repeated for a total of 6 credits

View Classes (<https://catalog.uconn.edu/course-search/?details&code=ANSC%205695>)

ANSC 5699. Independent Study. (1-3 Credits)

May be repeated for a total of 12 credits

View Classes (<https://catalog.uconn.edu/course-search/?details&code=ANSC%205699>)