

Department of Animal Science and Veterinary Technology

Contact Information

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The Department of Animal Science and Veterinary Technology offers Master of Science degrees in Animal Science and Ranch Management.

Animal Science, M.S.

Potential graduate students are advised to contact the department for current information on program opportunities.

Students pursuing the thesis option must complete their thesis within seven consecutive years of initial registration and should expect to complete a minimum of 30 hours of coursework (24 hours of formal courses plus one section of 5306 for completion of the proposal and a 2nd section of 5306 upon the completion of the thesis).

Research projects in Animal Science have involved, but are not limited to, nutrition, reproduction, physiology/endocrinology, meat sciences, muscle biology, molecular biology, grazing and forage systems, intensive and small-scale animal production systems and/or sustainability, international animal agriculture and quantitative genetics.

A course only option for the MS degree can be earned by students in Animal Science graduate program with successful completion of minimum of 36 hours of formal coursework. Students must obtain an approved degree plan from their graduate coordinator prior to courses being accepted toward their degree. Students who receive a graduate stipend are expected to be enrolled as a full-time student each semester. Research hours (5399 or 6999) can be taken to fulfill the obligation of being a full-time graduate student; however, research hours do not count toward formal course work hours.

Ranch Management, M.S.

For the M.S. degree in Ranch Management, the following course subjects can be included in the major area for the degree (ANSC, WSCI, PLSS).

Animal Science (ANSC)

ANSC 5305 Graduate Research Project 3 SCH (3)

Designed for project option students and requires completion of research project. Prerequisite: departmental approval. May be repeated for a maximum of 6 semester hours.

ANSC 5306 Thesis 3 SCH (3)

Designed for thesis option students. The course requires completion of thesis research. Prerequisite: departmental approval. May be repeated for maximum of 6 semester hours.

ANSC 5307 Physiol of Mammalian Reprod 3 SCH (3-0)

Comprehensive in-depth study of reproductive physiology and endocrinology with primary emphasis on domestic and laboratory animals. Prerequisites: ANSC 3313/BIOL 3408 or equivalent, and 9 semester hours of chemistry/biochemistry.

ANSC 5333 Mammalian Endocrinology 3 SCH (3-0)

Survey of the endocrine system including endocrine glands and hormones which regulate energy metabolism, water and electrolyte balance, growth and reproduction. Prerequisites: ANSC 4303 or equivalent and 9 semester hours of chemistry/biochemistry.

ANSC 5336 Envir Physiology of Animals 3 SCH (3-0)

Principles of domestic animal and wildlife adaptation to tropical and sub-tropical environments. Areas of emphasis will include bioclimatology, physiological temperature regulation mechanisms and nutritional, reproductive and genetic adaptation. Prerequisite: ANSC 4303 or equivalent.

ANSC 5337 Ruminant Nutrition and Physiol 3 SCH (3-0)

Anatomy, physiology, microbiology and nutrient metabolism of the rumen. Prerequisites: ANSC 4307 and CHEM 2421.

ANSC 5338 Monogastric Nutrition 3 SCH (3-0)

Digestion and absorption of nutrients in monogastrics to include human, poultry and swine. Emphasis on vitamin and trace mineral nutrition. Prerequisites: ANSC 4307 and CHEM 2421 or equivalent.

ANSC 5351 Advn Range Livestock Productn 3 SCH (3-0)

This is an interdisciplinary course studying modern beef cattle production, breeding genetics, reproductive physiology, nutrition and economics.

ANSC 5390 Advanced Studies in Animal Sci **3 SCH (3-0)**

Material offered is determined by the needs of the students. Laboratory and lecture vary according to the subject needs. May be repeated once under a different topic.

ANSC 5395 Advanced Probs in Animal Sci **1-3 SCH (1-3)**

Independent work that may include a laboratory or field problem. Variable credit dependent upon the problem; may be repeated for a total of 6 semester hours. Prerequisite: approval of a staff member who will supervise the problem.

ANSC 5399 Research Topics **1-9 SCH (1-9)**

This course is specifically designed for Plan I students. Required during the research, data analysis, and initial writing stage. Grading for the course will be S for satisfactory or U for unsatisfactory.

Ranch Management (RAMT)

RAMT 5305 Graduate Research Project **3 SCH (3)**

Designed for project option students and requires completion of research project. Prerequisite: departmental approval. May be repeated for a maximum of 6 semester hours.

RAMT 5350 Practicum in Ranch Management **3 SCH (3-0)**

Students apply tools and techniques learned in other courses to current issues facing the ranching industry. Course requires on ranch study of these current problems integrating tool and techniques learned in other courses using a system approach. Course may be repeated for a maximum of 6 semester hours.

RAMT 5351 Sys Apprch Natrl Res Prblm Sol **3 SCH (3-0)**

Concept of sysem dynamic s applied to solving natural resource management issues. Intensive application of system dynamics approaches and applied application to ranch and wildlife management and other disciples.

RAMT 5390 TOP: Adv Studies in Ranch Mgt **1-3 SCH (1-3-0)**

Material offered is determined by the needs of the students. Variable credit dependent upon the topic; may be repeated for a total of 9 semester hours under different topics.

RAMT 5695 Advanced Problems in Ranch Mgt **3-6 SCH (3-6)**

Independent work that may include a laboratory or field problem. Variable credit dependent upon the problem; may be repeated for a total of 3 semester hours for thesis option students or 6 semester hours for project option and course-only option students. Prerequisite: approval of a faculty member who will supervise the problem.

Graduate Programs

- Animal Science, M.S.
- Ranch Management, M.S.

Planned Course Offerings

This section provides a comprehensive list of courses offered by the Department of Animal Science and Veterinary Technology, along with a three-year schedule indicating when each course is expected to be available. Please note that course offerings and scheduling are subject to change based on faculty availability and student demand. It is recommended that students consult with their academic advisor to plan their course schedule accordingly.

Animal Science (ANSC)

Course	Fall 2026	Spring 2027	Fall 2027	Spring 2028
ANSC 5305	X	X	X	X
ANSC 5306	X	X	X	X
ANSC 5307 ¹				
ANSC 5333		X		
ANSC 5336	X		X	
ANSC 5337		X		X
ANSC 5338	X		X	
ANSC 5351		X		X
ANSC 5390	X	X	X	X
ANSC 5395	X	X	X	X
ANSC 5399	X	X	X	X

¹ This course is available during the summer term only.

Ranch Management (RAMT)

Course	Fall 2026	Spring 2027	Fall 2027	Spring 2028
RAMT 5305		X		X
RAMT 5350		X		X
RAMT 5351	X		X	
RAMT 5390	X		X	
RAMT 5695 ¹				

¹ This course is available during the summer term only.

Marketable Skills

Texas A&M University-Kingsville is dedicated to equipping graduate and doctoral students with the advanced marketable skills necessary for professional and academic excellence beyond the university setting. These skills encompass a range of high-level interpersonal, analytical, and applied competencies that are sought after in today's competitive workforce.

Our graduate programs are structured to cultivate these capabilities through rigorous academic inquiry, experiential learning, faculty-mentored research, professional internships, and opportunities for scholarly and community engagement.

Below are the marketable skills cultivated through each of the department's graduate academic programs.

Animal Science, M.S.

- Master depth of knowledge required for the degree
- Demonstrate critical thinking and decision-formulating
- Effective communication
- Preparation to engage in life-long learning

Ranch Management, M.S.

- Understanding of complex systems in natural resources management and mastery of systems dynamics tools for analysis and communication
- Proficiency in communication and analytics needed for managing large ranches
- Proficiency in transferring knowledge and technology in the field of ranch management