THE GRADUATE SCHOOL | MONTANA STATE UNIVERSITY

Animal and Range Sciences

DEGREES OFFERED

- M.S. in Animal and Range Sciences
  - Animal Science Emphasis
  - Range Science Emphasis
  - Biology Emphasis
- Ph.D. in Animal and Range Sciences

Department Address:
103 Animal Bioscience Building
P.O. Box 172900
Bozeman, MT 59717
Phone: 406-994-3721
Fax: 406-994-5589
Email: animalrange@montana.edu
Web: http://animalrange.montana.edu

ADMISSION

A minimum of 3.0 on a 4.0 scale is required by the Graduate School for admittance. We require that a student take the GRE (Graduate Record Examination) and the scores be included as part of the application material. If you have not taken the GRE exam, you should do so at your earliest convenience. In addition to the above requirements international applicants must have a TOEFL (English proficiency) score of 550 (paper) or 213 (computer). The student's undergraduate work should have been in Animal Science, Range Science or a related field. A faculty member must agree to advise a student before they will be accepted into the graduate program in Animal and Range Sciences.

ANIMAL SCIENCE EMPHASIS

Graduate students in the Animal Science Emphasis receive broad based training resulting in experiences that qualify them for many agricultural jobs. Areas of emphasis include nutrition, breeding and genetics, physiology, production systems, and meat science/ muscle growth. Research problems may involve beef cattle, sheep, horses and biochemical or other properties of agricultural products. Supporting course work may be taken from Animal Science, Range Science, Biology, Wildlife Management, Biochemistry, Statistics, Plant Sciences, Land Resources and Environmental Sciences, and Economics. Research laboratories are available in the department and specialized equipment is also available through cooperation with other departments.

RANGE SCIENCE EMPHASIS

Research and training opportunities in the Range Science programs are diverse, and students with a wide variety of backgrounds, goals, and educational needs are accepted. Major areas of study are range ecology, habitat management, watershed management, grazing management,

continued

MONTANA STATE UNIVERSITY | The GRADUATE SCHOOL

Students working in the Meat Lab

Animal and Range Sciences building on campus

Agricultural Experiment Station

monitoring, riparian ecosystems, measurements, and plant-animal (livestock and wildlife) interactions. The Range Science Emphasis prepares students for careers in rangeland management, wildlife management, habitat management, natural resource conservation and restoration, research, land-use planning, and consulting.

Cooperative projects with ranchers and federal and state agencies are also conducted. Supporting courses at the graduate level include botany, wildlife biology and management, soils, animal science, earth science, plant science, statistics and biochemistry.

Biology Emphasis

Graduate students in the Biology Emphasis receive training directed toward the basic biological functions as they relate to animal production, meat science/meat food safety or entomology. Research projects may involve beef cattle, sheep and biochemical or other properties of agricultural products. Supporting course work may be taken from Animal Science, Range Science, Biology, Wildlife Management, Biochemistry, Statistics and Plant Sciences.

DOCTOR OF PHILOSOPHY

Students seeking a Ph.D. in Animal and Range Sciences are expected to have completed a Master of Science in Animal Science, Range Science or a closely related area. The Ph.D. program is based upon an area of specialization in research and intensive course work that would normally require three years of full-time work beyond the M.S. degree. In addition to requirements set forth by the Graduate School, the major professor and the student's graduate committee will determine specific course requirements to complete the Ph.D. degree.

FACILITIES

The department conducts cooperative research with the U.S. Livestock and Range Research Station at Miles City, Montana, and the U.S. Sheep Experiment Station at Dubois, Idaho. Facilities for the maintenance of beef cattle and sheep are available at the Red Bluff Research Ranch, 30 miles west of Bozeman, the Fort Ellis Research Center, near Bozeman, and the Northern Agricultural Research Center at Havre. The Bozeman Area Research and Teaching (BART) farm has facilities for sheep, horses and beef cattle, including a cattle feedlot and nutrition laboratory. A wool laboratory is located on campus.

FACULTY

Professors

James Berardinelli – *Reproductive Physiology and Endocrinology*
Janice Bowman – *Beef Cattle Nutrition*
Tim DelCurto - *Range Beef Cattle Nutrition and Management*
Patrick Hatfield – *Range Sheep Nutrition and Management*
Gregory Johnson – *Veterinary Entomology*
Clayton Marlow – *Plant and Animal Interactions, Riparian Mgmt*
Jeffrey Mosley – *Extension Range Management Specialist*
Bret Olson – *Rangeland Ecology*
Bok Sowell – *Rangeland Ecology, Wildlife Habitat, Nutritional Ecology*

Associate Professor

Jane Ann Boles – *Meat Science*
Rachel Endecott – *Extension Beef Cattle Specialist*
Shannon Moreaux - *Equine Science*

Assistant Professors

Craig Carr - *Rangeland Ecology and Management*
Emily Glunk - *Extension Forage Specialist*
Lance McNew - *Wildlife Habitat Ecology*
Whitney Stewart - *Extension Sheep Specialist*
Jennifer Thomson - *Animal Genetics and Genomics*
Megan Van Emon - *Extension Beef Cattle Specialist*
Carl Yeoman - *Molecular Microbial Ecology of Livestock*