

# Department of Animal and Range Sciences

The Animal and Range Sciences Department at Montana State University offers students a firm foundation in the biological and natural sciences, reproductive physiology, animal nutrition, livestock production and management, habitat ecology, and the interaction and management of livestock and wildlife. We offer several curricular options to fit our students' needs, and we pride ourselves in our student's access to field laboratories and interactive class projects.



## CURRICULUM OPTIONS

### B.S. Animal Science

The Animal Science curriculum provides students with a foundation in biological and natural sciences, animal breeding and genetics, livestock production and management, reproductive physiology, livestock nutrition, and meat science.

#### Animal Science Option

This option is designed for students who have a strong interest in graduate training or professional school. Individual curricula can be tailored to provide excellent preparation for veterinary school, or graduate studies in animal biotechnology, physiology, nutrition or genetics.

#### Livestock Management and Industry Option

The Livestock Management & Industry Option stresses the application of science to livestock production, incorporating courses in agricultural economics and business. Emphasis is placed on the application of the principles of economics, range science, genetics, physiology and nutrition in sustainable livestock production systems and business and management skills as they relate to livestock enterprises and service industries closely allied to livestock production.

#### Equine Science Option

The Equine Science Option emphasizes science and technology combined with practical aspects of management, horsemanship and training. Graduates of this program will have a firm foundation to meet the growing needs of the equine industry.

### B.S. Natural Resources and Rangeland Ecology

This curriculum emphasizes ecological principles to solve management problems. Coursework integrates knowledge of rangeland plant, soil, water, livestock and wildlife resources while cultivating critical thinking, problem-solving, and communication skills. Field experience is provided by using the surrounding environmental resources of the Gallatin Valley and Yellowstone National Park.

#### Rangeland Ecology and Management Option

This option is designed to emphasize management of rangeland environments. Courses in resource inventory, watershed, rangeland restoration and vegetation ecology are required to give the student a background in ecological principles used to manage rangelands in the western United States.

#### Wildlife Habitat and Ecology Management Option

This option provides students with a broad based background in wildlife habitat, rangeland ecology, and wildlife-livestock interactions common in the western United States. The focus will be on wildlife habitat, major vegetation types, rangeland livestock production, soils, and water within the framework of total resource management.

### B.S. Sustainable Foods and Bioenergy Systems, Sustainable Livestock Production

Sustainable Livestock Production focuses on the biological understanding of animal agriculture and its continued presence in sustainable grazing systems as well as its potential role in sustainable farming systems. Students will be introduced to the principles, practices and issues impacting the production, processing and preservation of safe, wholesome, nutritious, and palatable meat along with the regulatory requirements for selling animal products.



## Specialized Areas of Study/Minors

- Animal Science
- Genetics
- Natural Resources and Rangeland Ecology

## Graduate Programs:

- M.S. Animal and Range Sciences
- Ph.D. Animal and Range Sciences

## What can I do with my degree?

- Animal Science:
- Extension Specialist
- Animal Behaviorist
- Animal Nutritionist
- Animal Scientist
- Animal Trainer
- Bio-technician
- Embryologist
- Geneticist
- Meat Scientist
- Veterinarian
- 4-H Agent
- Extension Personnel
- Equine Breeder, Manager, Trainer
- Private Industry
- State and Federal Agencies

## For additional information:

Department of Animal & Range Sciences  
P.O. Box 172900  
Bozeman, MT 59717-2900

Email: [animalrange@montana.edu](mailto:animalrange@montana.edu)  
Tel: (406) 994-3722  
Fax: (406) 994-5589

Location: 103 Animal Bioscience Building



## RESOURCES AND FACILITIES

### Animal Bioscience Building

Completed in July of 2010, the Animal Bioscience building features robust, cutting-edge audio/visual infrastructure, a range laboratory, student lounges, a learning and computer resource room and a teaching laboratory. Additional facilities include: Equestrian Pavilion, Meat Science Lab, Wool Lab, Nutrition Center, Research Farms and Ranches.

### Student organizations

There are numerous student clubs and organizations affiliated with the department including; Collegiate Cattlewomen, Meats and Livestock Judging Teams, Range Club, and the Equestrian Team.

## CAREERS WITH A DEGREE IN ANIMAL AND RANGE SCIENCES

Students in our programs are qualified for a wide variety of challenging careers. Graduates find employment in academic teaching and research, industrial research in the food and feed industries, in laboratory research programs with governmental and international agencies, private corporations, and in industrial or institutional management positions requiring a high level of scientific training. In government positions, graduates can help draft regulations governing the agriculture industry, or work directly in research. Other traditional employment can be found with feed manufacturers, animal breeding companies, meat packers, pharmaceutical companies, consulting firms, universities, or in primary production.

Graduates of our Equine Science program are prepared for employment in breeding, nutrition, and management of facilities

and land, as well as in the allied industries such as sales, feed, tack, and equipment. Our Livestock Science program prepares graduates to manage livestock enterprises or for employment with companies producing and marketing livestock, animal feeds and health products, as well as employment with a variety of communication and service organizations such as breed associations, commodity groups, livestock publications and government agencies.

Students in the Natural Resources and Rangeland Ecology program are trained for employment with state or federal land management agencies, as well as private industry or graduate school.

## ACCOMPLISHMENTS AND DISTINCTIONS

### Leading Student Clubs

After securing a victory in the Annual Animal Agriculture Alliance Online College Aggies competition, Collegiate Cattlewomen were identified as the 2013 MSU Student Organization of the year. During the competition, they won a donation of 15 tons of Tyson Chicken that was donated to the Gallatin Valley Food Bank. In addition, the MSU Quadrathlon team won regional and tie for second in national animal science competition in 2014.

### “Hands-on” Coursework

Our faculty believe that students learn key concepts by combining field work and hands-on activities with classroom studies. Our faculty also bring real-life examples to the curriculum. We want each student to gain valuable skills to create a strong foundation for successful careers. Our dedicated staff and research associates provide valuable expertise that keeps the department's activities and research efficient and relevant.

