

MSU Departmental Assessment Plan 2007-2009

Department: Animal and Range Sciences

Department Head: B.E. Olson

Assessment Coordinator: B.E. Olson

Degrees/Majors/Options Offered by Department

Bachelor of Science in Animal Science

- Equine Science Option
- Livestock Management and Industry Option
- Science Option

Bachelor of Science in Natural Resources and Rangeland Ecology

- Rangeland Ecology and Management Option
- Wildlife Habitat Ecology and Management Option

**Animal and Range Sciences Department
Assessment Plan – Undergraduate Program
Adopted 2004, Revised June 2007**

Contact Person: B.E. Olson, Interim Department Head

Mission Statement

The mission of the Department of Animal and Range Sciences is the scholarly discovery and dissemination of science and technology supporting livestock, rangelands, and other renewable natural resources in socially acceptable and economically and ecologically sustainable systems.

Degree Objectives

The Department of Animal and Range Sciences offers two B.S. degrees: Animal Science, and Natural Resources and Rangeland Ecology. Both degrees emphasize the science, ecology and management of animals and rangelands. Applications stress the inter-relationships among animals, rangeland resources, and people in environments of Montana and the western United States. Each degree program seeks to produce graduates that are: 1) well prepared for professional careers in the livestock and natural resource industries, 2) contributing citizens in a diverse society, and 3) committed to life-long learning. Our academic programs recognize and accommodate the different learning styles and backgrounds of students, and use a variety of teaching methods to develop higher learning skills.

The Animal Science curricula provide students with a firm foundation in the biological and natural sciences, animal breeding, reproductive physiology, nutrition and livestock production. Students gain valuable experience in livestock husbandry and enterprise management. Choices of degree options and proper use of restricted electives allows students to tailor curricula to meet their individual needs. The Range Science curriculum provides students with an understanding of the multiple uses of rangelands within an ecological framework. Students integrate information from many scientific disciplines and gain valuable experience in managing natural resources.

Expected Competencies

Expected competencies of graduates include:

- Quantitative Reasoning
 - Familiarity with numerical information relevant to the field
 - Basic comprehension of quantitative methods, statistics and statistical inference
 - Application of fundamental quantitative methods used in the industry
- Communication Skills

- Comprehension and application of principles of effective written and oral communication
 - Personal, business, and technical
- Discipline-Specific Knowledge
 - Comprehension of facts, concepts, relationships
 - Applications in livestock and natural resource management
 - Access to and proper use of scientific literature
- Comprehension and appreciation for regional, national and global issues relevant to livestock and natural resource management.
- Management and Research Experience
 - Analysis of complex technical problems
 - Integration of information from many sources and disciplines into management plans and decisions
 - Critical evaluation of complex systems
 - Comprehension and application of the scientific method

Assessment Goals

- Assessment efforts serve as a vehicle for educational improvement in the department.
 - Comparing student experiences and performance with educational goals and expectations
 - Assessment activities include collecting data, evaluating results, and making decisions
- Data collected represents:
 - Multiple dimensions - i.e., demographics, knowledge, skills, experiences, attitudes
 - Multiple points in time - middle and end of program
 - Multiple points of view - students, alumni, faculty, external clients

Assessment Methods

- Student Entrance Information
 - The department will summarize data on incoming freshmen and transfers each year. We will attempt to characterize incoming students with respect to available demographics. Over time this may reveal trends that will be used to revise curricula and recruit.
- Mid-Program
 - The department head will meet annually with sophomores in ARNR 230 to communicate the mission and objectives of the Animal and Range Sciences degree program. This course is required of all majors and options.
 - Standardized course evaluations (Aleamoni) are required for all courses. Professors are also encouraged to develop and administer course-specific

evaluations to course objectives and teaching methods. Professors are encouraged to use these data to revise course content and teaching methods. These evaluations are included in annual evaluations of faculty. This practice will continue.

- Small Group Instructional Diagnoses (SGID) will be required for all courses taught by non-tenured tenure-track professors and by any inexperienced instructor, and are recommended for all courses. SGID provide valuable data to instructors to improve teaching.
- Animal and Range Sciences has used a standardized advising evaluation survey for several years. All department majors are asked to fill out this form once per year. Data are summarized for and returned to each advisor. Results are considered in annual faculty evaluations. This practice will continue.
- End of Program
 - Each curriculum in the department includes a required senior-level capstone experience course. Each capstone course includes case studies involving off-campus industry cooperators. These large, generally unstructured management problems include active learning, role-playing, and resolving conflicts. Importantly, these experiences help students integrate concepts and skills learned throughout their academic careers and provide students opportunity to exercise higher learning skills (analysis, synthesis, evaluation). Student performance in these courses provides a subjective measure of student competencies as related to degree objectives. This will continue.
 - The department has administered a voluntary exit questionnaire to graduating seniors for several years. With professional assistance, a new survey instrument was developed to quantitatively link this tool to degree objectives. The new questionnaire was first used in 2005. About a third of the graduating seniors returned the survey in May 2006. In the future, we will require graduating seniors to complete the survey.
 - The department head will conduct Small Group Instructional Diagnoses with seniors in the capstone courses. The format will be similar to that used for a semester course, yet the focus will be on the student's perceptions of their competencies as related to degree objectives.
 - The department head has conducted exit interviews with graduating seniors for several years. This will continue. Questions will serve to follow-up on student responses to the exit questionnaire (i.e., focus on degree objectives), and to identify program strengths and weakness on a more personal level.
- Alumni Input

- The department will develop an alumni questionnaire. The instrument will focus on degree objectives. It will be developed by consulting with a professional who has experience in collecting this type of data from alumni.
- Employer and External Client Input
 - Animal and Range Sciences works with and through several advisory committees. Composed of industry professionals and leaders (including alumni), these committees provide input and advice on essentially all department programs. These committees frequently review components of the department's degree programs. The Department Head is primarily responsible for receiving, summarizing and communicating input received from advisory committees. Input received is used to help adjust programs. For example, our internship program was developed based on such input.

Utilization of Assessment Information

- Information collected related to specific courses will be communicated to instructors of those courses. The individual course instructor shall be responsible for evaluating the specific course relative to information from assessment activities.
- Information and data collected from the beginning (student entrance information), mid- (sophomore), end (Senior), and career (alumni, employer, and external client) assessment activities that are related to curricula will be summarized and communicated to the Undergraduate Curricula Committee, and to all faculty as appropriate, in a manner that maintains student confidentiality. In response to assessment information, the Undergraduate Curricula Committee and Department Head shall be primarily responsible for evaluating curricula for each degree option for possible revision. Significant suggestions for revising curricula will be discussed by all faculty before any changes are adopted.