

# **MSU Departmental Assessment Plan 2009-2010**

**Department:** Land Resources and Environmental Sciences

**Department Head:** Tracy M. Sterling

**Assessment Coordinator:** Cathy Zabinski

## **Degrees/Majors/Options Offered by Department**

### **B.S. Degrees in:**

1. Environmental Sciences
  - Soil and Water Science Option
  - Environmental Biology Option
2. Land Resource Sciences
  - Land Resources Analysis and Management Option
3. Land Rehabilitation
4. Sustainable Foods Bioenergy Systems/Agroecology Option

### **M.S. Degrees in:**

Land Resources and Environmental Sciences  
Land Rehabilitation  
Entomology (cross-departmental within College of Agriculture)

### **Ph.D. Degree in:**

Ecology and Environmental Sciences (cross-college)

## **Student Outcomes Assessment Plan**

### **Land Resources and Environmental Sciences Department**

The Department of Land Resources and Environmental Sciences (LRES) will undertake an ongoing assessment of student outcomes, as part of the departmental strategy to continually enhance the quality and effectiveness of undergraduate and graduate student educational programs, services, and experiences.

#### **Majors**

The initial outcomes assessment plan covers all undergraduate majors offered through the LRES Department. These include 1) Environmental Sciences, with options in a) Environmental Biology and b) Soil and Water Sciences; 2) Land Rehabilitation; and 3) Land Resource Sciences with options in a) Land Resources Analysis and Management and b) Sustainable Food and Bioenergy Systems, Agroecology option.

#### **Primary Assessment Contact**

Dr. Tracy M. Sterling, Department Head. 994-4605, [tracy.sterling@montana.edu](mailto:tracy.sterling@montana.edu).

#### **Assessment Management Structure**

The Program Coordinator I (Linda McDonald) has primary responsibility to provide and document excellent recruitment, orientation, advising, support, progress facilitation, records preparation and maintenance, and advising/outcomes assessment activities for students at the undergraduate and graduate levels.

LRES faculty will serve as leaders in assessment of student outcomes. Program goals and assessment plans will be discussed and approved during biennial reviews, as part of the LRES Curriculum Committee activities. This committee is made up of all LRES teaching faculty.

#### **Degree Objectives**

LRES degrees provide students with a strong background of basic science courses coupled with tools needed to apply this knowledge to land resource management questions.

#### **Expected Competencies**

Expected competencies for LRES majors include a diverse set of discipline-specific and interdisciplinary knowledge, skills, and abilities; oral and written communication and presentation skills; problem solving skills, including critical thinking, quantitative reasoning, analytical synthesis, and decision making; information gathering skills including finding appropriate information sources (e.g., soil maps, vegetation surveys, research articles, etc.), and being able to read and summarize research papers; data management and quantitative skills such as working with spreadsheets, calculating basic statistics, organizing data layers, and applying data to equations.

#### **Additional Goals**

A significant proportion of our students find post-graduate employment or education in related fields, and are broadly well prepared for these endeavors.

### **Plan for Gathering and Summarizing Data**

The Program Coordinator will work with faculty to develop effective assessment instruments and records maintenance structures, and will effectively summarize findings. A questionnaire designed to poll graduating seniors will be developed jointly by the Program Coordinator and LRES instructional faculty. This instrument will address perceived value and effectiveness of our individual courses, advising, and overall instructional program. Additionally, we will document what our students are exposed to in our courses, by collecting sample examinations, lab reports, capstone course activities and products, etc.

Faculty will assist the Program Coordinator in interpreting the summary assessment data, and in continual enhancement to our coordinated Outcomes Assessment Program. Results of LRES assessment activities will be reviewed annually, and incorporated into our instructional programs.

### **Plan for Utilizing Data**

Student outcomes assessment data will be shared, discussed, and acted on by faculty during periodic LRES Curriculum Committee meetings. The Curriculum Committee is responsible, in collaboration with the department head, for setting instructional policies, organizing and revising undergraduate and graduate curricula, and implementing curricular modifications within the department.

During the 2008-2009 academic year, LRES conducted 4 searches, including a department head and a cluster hire of 3 new faculty. Further development and review of assessment tools was put on hold during the year, because of the time commitment of the multiple searches, and because the outcome of those searches would have a significant impact on both curricular programs and future development of assessment. During the 2009-2010 academic year, the curriculum committee will undertake the following items: 1) further development of specific competencies for each of the LRES majors and options within those majors; 2) analysis of current course offerings for each of the majors, in relation to which of the competencies the courses address; 3) development of assessment tools that specifically address expected competencies and course content and structure. These activities will begin early in the fall semester, with the goal of having significant progress to review at the LRES Departmental Retreat in January 2010.