

## ASSESSMENT REPORT 2014-2015

**Natural Sciences: Environmental Science and Management**  
(Instructional Degree Program)

**M.S.**  
(Degree Level)

### **Program Mission:**

The mission of the M.S. Natural Sciences-Environmental Science & Management Concentration is to provide students with pre-professional and post-graduate education in environmental science and management, including engagement in graduate-level coursework, practice in teaching undergraduate biology, forestry and geology laboratory sections, and participation in thesis research.

### **Student Learning Outcome 1:**

Competency in graduate level coursework.

### **NMHU Traits Specifically Linked to Student Learning Outcome 1**

- Mastery of Content Knowledge and Skills

### **First Means of Assessment for Outcome 1:**

Maintainence of a 3.0 GPA for graduate level coursework.

### **Summary of Data:**

Number of Students Meeting Criterion:	6	Number of Students Not Meeting Criterion:	0
Total Number of Students Assessed:	6	Percent of Students Meeting Criterion:	100%

**Interpretation of Results for Outcome 1:** *Environmental Science & Management students consistently demonstrate the ability to succeed in graduate-level coursework. The Natural Resources Management – Forestry faculty selects a relatively small pool of qualified applicants into the graduate program with undergraduate academic record and/or applied experience that demonstrate potential to succeed in graduate level coursework. Rigorous review of application materials and maintenance of program pre-requisites factor into student success.*

### **Student Learning Outcome 2:**

Competency in teaching assistantship.

### **NMHU Traits Specifically Linked to Student Learning Outcome 2**

- Mastery of Content Knowledge and Skills
- Effective Communication Skills
- Critical and Reflective Thinking Skills

### **First Means of Assessment for Outcome 2:**

Success in delivering lab introductions, grading and returning student materials, maintaining office hours, and making meaningful contributions to laboratory section, as reported by faculty instructors.

#### **Summary of Data**

Number of Students Meeting Criterion:	3	Number of Students Not Meeting Criterion:	0
Total Number of Students Assessed:	3	Percent of Students Meeting Criterion:	100%

**Interpretation of Results for Outcome 2:** *Environmental Science & Management graduate students consistently do well in their teaching assistantships. The Natural Resources Management – Forestry faculty meets regularly with and mentors graduate students in aspects of teaching (lecture preparation, material delivery, one-on-one student interaction, and grading) to help with teaching assistantship professional development.*

### **Student Learning Outcome 3:**

Progress and proficiency in thesis research, including the design, defense, and execution of a thesis project.

#### **NMHU Traits Specifically Linked to Student Learning Outcome 3**

- Mastery of Content Knowledge and Skills
- Effective Communication Skills
- Critical and Reflective Thinking Skills

### **First Means of Assessment for Outcome 3:**

Writing of a thesis proposal, defense of the thesis proposal, and progress in the thesis research as reported by graduate thesis advisors.

#### **Summary of Data**

Number of Students Meeting Criterion:	12	Number of Students Not Meeting Criterion:	1
Total Number of Students Assessed:	13	Percent of Students Meeting Criterion:	92.3%

**Interpretation of Results for Outcome 3:** *The majority of Environmental Science & Management graduate students consistently do well, in collaboration with their graduate thesis advisors, in designing, defending, and executing thesis research projects. Part of this success is due to their first-semester participation in Edward Martinez' "FOR 600: Research Methods" class. Dr. Martinez takes an extraordinary amount of time in teaching students how to define a project, review the literature, design project methods, and prepare proposals. He gives all of the Natural Sciences M.S. students (Biology, Environmental Science & Management, and Geology) a head-start in their thesis project.*

*The one student not meeting the outcome has elected to suspend his studies and pursue a teaching career.*

#### **Student Learning Outcome 4:**

Successful completion of a Master's thesis within 3-year (6-semester) timeframe.

#### **NMHU Traits Specifically Linked to Student Learning Outcome 4**

- Mastery of Content Knowledge and Skills
- Effective Communication Skills
- Critical and Reflective Thinking Skills

#### **First Means of Assessment for Outcome 4:**

Completion of a M.S. thesis project and paper within 3-year (6-semester) timeframe.

#### **Summary of Data**

Number of Students Meeting Criterion:	3	Number of Students Not Meeting Criterion:	4
Total Number of Students Assessed:	7	Percent of Students Meeting Criterion:	43%

**Interpretation of Results for Outcome 4:** *3/7 of the students slated to graduate did so within the measured timeframe. The Forestry faculty is exploring the reasons behind the other 4 students not meeting this criterion (problems with critically thinking and analyzing the data, difficulty with writing, financial problems necessitating entry to work-force, lack of motivation, others?) to develop intervention strategies where possible.*