

**ASSESSMENT REPORT  
2015-2016**

**Natural Sciences**

(Instructional Degree Program)

**M.S.**

(Degree Level)

**Concentration**

**Geology**

**Program Mission:**

The mission of the M.S. Natural Sciences-Geology Concentration is to provide students with pre-professional and post-graduate education in geology, including engagement in graduate-level coursework, practice in teaching undergraduate 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:	4	Number of Students Not Meeting Criterion:	0
Total Number of Students Assessed:	4	Percent of Students Meeting Criterion:	100%

**Interpretation of Results for Outcome 1:** *Geology graduate students consistently do well in their graduate-level coursework. The Natural Resources Management – Geology 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 assistanceship.

**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:	4	Number of Students Not Meeting Criterion:	0
Total Number of Students Assessed:	4	Percent of Students Meeting Criterion:	100%

**Interpretation of Results for Outcome 2:** *Geology graduate students consistently do well in their teaching assistantships. The Natural Resources Management – Geology 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. Graduate students do report need for additional teaching development (classroom management, maintenance of office hours, lecture delivery, etc.). Geology faculty is discussing with NMHU Center for Teaching Excellence the possibility of offering graduate student teaching workshops.*

### **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:	8	Number of Students Not Meeting Criterion:	0
Total Number of Students Assessed:	8	Percent of Students Meeting Criterion:	100%

**Interpretation of Results for Outcome 3:** *Geology 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 FOR 600: Research Methods class, in which the instructor (a BIOL, FOR, or GEOL professor) takes an extraordinary amount of time in teaching students how to define a project, review the literature, design project methods, and prepare proposals. All of the Natural Sciences M.S. students, including Geology, are provided with a good head-start in their thesis project after completing this class.*

**Student Learning Outcome 4:**

Successful completion of a Master’s thesis within 2-year (4-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 2-year (4-semester) timeframe.

**Summary of Data**

Number of Students Meeting Criterion:	4	Number of Students Not Meeting Criterion:	0
Total Number of Students Assessed:	4	Percent of Students Meeting Criterion:	100%

**Interpretation of Results for Outcome 4:** *Four M.S. Natural Sciences-Geology graduate student were in the second to third year of graduate work during AY2015-16. All four of these students did well in developing, executing, and completing their thesis within 5 semesters.*