

## ASSESSMENT REPORT 2014-2015

**Natural Sciences: Biology**  
(Instructional Degree Program)

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

### **Program Mission:**

The mission of the Biology program is to provide undergraduate and graduate students with a high quality science education that includes experience with a research and field projects. The program provides a scientific and technical background that empowers students to successfully pursue science and technology careers, or, proceed on to advanced graduate studies.

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

Have mastery of principle biological knowledge

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

Mastery of Content Knowledge and Skills

Effective Communication Skills

Critical and Reflective Thinking Skills

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

Course grades and evaluations; successful students will receive an average grade of “B” or better on class tests and/or projects in Biol 610, 640 and 620 (advanced topics).

### **Summary of Data:**

Number of Students Meeting Criterion:	13	Number of Students Not Meeting Criterion:	3
Total Number of Students Assessed:	16	Percent of Students Meeting Criterion:	81.2%

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

The general knowledge component of the thesis or project defense will be used as the assessment tool. Measure of success – 80% or more of our students will successfully meet our criteria.

### **Summary of Data:**

Number of Students Meeting Criterion:	2	Number of Students Not Meeting Criterion:	0
Total Number of Students Assessed:	2	Percent of Students Meeting Criterion:	100%

### **Interpretation of Results for Outcome 1:**

Biological knowledge is successfully met. The assessments through course grades and thesis defense seem to accurately reflect our expectations for graduate students.

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

Utilize scientific methodology and technology through which biological knowledge accumulates.

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

Effective Use of Technology

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

Successful students will write an acceptable thesis proposal or project proposal and successfully defend it (B or better) in Biology 600 (Research Methods).

### **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%

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

Course grades and evaluations of laboratory courses; Successful students will receive an average grade a "B" or better on laboratory reports and exams which include designing and carrying out experiments. Measure of success – 80% or more of our students will successfully meet our criteria.

### **Summary of Data:**

Number of Students Meeting Criterion:		Number of Students Not Meeting Criterion:	
Total Number of Students		Percent of Students Meeting	%

Assessed:		Criterion:	
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### **Interpretation of Results for Outcome 2:**

No graduate courses that included a laboratory portion were taught during 2014/2015 but all students were successful in writing a thesis or project proposal.

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

Be able to critically analyze information and effectively impart biological knowledge with peers, mentors, and other professionals in the scientific community.

### **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:**

Thesis (or Project) and Defense; Successful students will write an acceptable thesis and pass their thesis defense.

#### **Summary of Data**

Number of Students Meeting Criterion:	2	Number of Students Not Meeting Criterion:	0
Total Number of Students Assessed:	2	Percent of Students Meeting Criterion:	100%

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

Graduate Seminar-successful students will receive a "B" or better in the seminar

#### **Summary of Data**

Number of Students Meeting Criterion:	7	Number of Students Not Meeting Criterion:	0
Total Number of Students Assessed:	7	Percent of Students Meeting Criterion:	100%

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

Course grades and evaluations for courses other than graduate seminar, particularly for courses involving written and oral reports; Successful students will receive an average grade of “B” or better for written and oral reports presented during these courses. Measure of success – 80% or more of our students will successfully meet our criteria.

#### **Summary of Data:**

Number of Students Meeting Criterion:	13	Number of Students Not Meeting Criterion:	3
Total Number of Students Assessed:	16	Percent of Students Meeting Criterion:	81.2%

### **Interpretation of Results for Outcome 3:**

Critical analysis and communicating to the scientific community are successfully fostered among graduate students.

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

Receive a comprehensive science background essential to advance to a doctoral program and/or career in biology or related fields.

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

Mastery of Content Knowledge and Skills  
Effective Use of Technology

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

Tracking students receiving Master’s Degrees in the program in the program using faculty knowledge. Measure of success - 75% of respondents indicating continuing their education or employed in biology or related area. 75% of the respondents will indicate that they are satisfied or very satisfied with their preparation for work or graduate school.

#### **Summary of Data**

Number of Students Meeting Criterion:	2	Number of Students Not Meeting Criterion:	0
Total Number of Students Assessed:	2	Percent of Students Meeting Criterion:	100%

**Interpretation of Results for Outcome 4:**

Our program has great success at preparing graduates for biology careers. We think that this criteria is an important measure of our program's success.