

# **Course Student Learning Outcomes Assessment**

**BIOL 109H Honors Fundamentals of Biology**

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# Table of Contents

<b>General Information</b>	<b>1</b>
<b>Standing Requirements</b>	<b>2</b>
Course Description.....	2
Course Student Learning Outcomes.....	2
<b>2014-2015 Assessment Cycle</b>	<b>3</b>
Measurements.....	3
Findings.....	3
Plans of Action.....	4
Status Reports.....	5
<b>2013-2014 Assessment Cycle</b>	<b>8</b>
Measurements.....	8
Findings.....	8
Plans of Action.....	9
Status Reports.....	9
<b>2012-2013 Assessment Cycle</b>	<b>10</b>
Measurements.....	10
Findings.....	10
Plans of Action.....	12
Status Reports.....	13

## **General Information (Course Student Learning Outcomes Assessment)**

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# Standing Requirements

## 📖 Course Description

Traditional Biology enriched in breadth and depth by extensive outside reading assignments and guest lecture presentations. Emphasis is on individual preparation for discussion and analysis of pertinent topics using critical oral and written expression. Designed for non-biology majors.

## 📖 Course Student Learning Outcomes

### BIOL 109H Honors Fundamentals of Biology Outcome Set

Outcome	
Outcome	Mapping
Outcome 1 Identify and explain the definitive characteristics of living organisms in a clear and concise manner.	<b>Institutional Student Learning Outcomes:</b> Act 3, Communicate 1, Learn 1, Think 1, Think 3
Outcome 2 Demonstrate a coherent understanding of evolution and its relationship to the unity and diversity of living organisms.	<b>Institutional Student Learning Outcomes:</b> Act 3, Communicate 1, Learn 1, Think 1, Think 2, Think 3

## 2014-2015 Assessment Cycle

### Measurements

#### Outcomes and Measures

#### BIOL 109H Honors Fundamentals of Biology Outcome Set

##### Outcome

###### Outcome 1

Identify and explain the definitive characteristics of living organisms in a clear and concise manner.

▼ **Measure:** Means of assessment 109H  
Course level; Direct - Exam

**Description of Measurement Tool:** Three multiple-choice questions will be inserted into various lecture exams.

**Criteria for Success: Individual & Collective Student Criterion:** Expected 70% success rate

**Cycle of Assessment:** Spring 2015

**Who is Responsible for Assessment Activity?:** Biology faculty currently teaching the course

###### Outcome 2

Demonstrate a coherent understanding of evolution and its relationship to the unity and diversity of living organisms.

▼ **Measure:** Means of assessment 109H  
Course level; Direct - Exam

**Description of Measurement Tool:** Multiple-choice questions will be inserted into various lecture exams.

**Criteria for Success: Individual & Collective Student Criterion:** Expected 70% success rate

**Cycle of Assessment:** Spring 2016

**Who is Responsible for Assessment Activity?:** Biology faculty currently teaching the course.

### Findings

#### Finding per Measure

#### BIOL 109H Honors Fundamentals of Biology Outcome Set

##### Outcome

###### Outcome 1

Identify and explain the definitive characteristics of living organisms in a clear and concise manner.

▼ **Measure:** Means of assessment 109H  
Course level; Direct - Exam

**Description of Measurement Tool:** Three multiple-choice questions will be inserted into various lecture exams.

**Criteria for Success: Individual & Collective Student Criterion:** Expected 70% success rate

**Cycle of Assessment:** Spring 2015

**Who is Responsible for Assessment Activity?:** Biology faculty currently teaching the course

**Findings** for Means of assessment 109H

**Summary of Findings:** Question #1: When an organism becomes a fossil, its tissues are replaced by minerals. It no longer exhibits most of the properties associated with life. Which property is retained by the fossil?

A) organization. B) homeostasis. C) growth and reproduction. D) response to stimuli. E) metabolism.

Out of 22 students, 10 answered the question correctly (45.5%)

Question #2: Outside, the non-living world is unorganized and chaotic while inside an organism, there is a relatively constant environment. Maintenance of the constant internal environment exhibits which of the following properties associated with life?

A) behavior. B) metabolism. C) growth and development. D) homeostasis. E) adaptation.

Out of 22 students, 11 answered the question correctly (50.0%)

Question #3: The smallest unit that has all the characteristics of life is

A) tissue. B) atom. C) molecule. D) organelle. E) cell.

Out of 22 students, 18 answered the question correctly (81.8%)

**Results:** Criteria for Success Achievement Status: Not Met

**Analysis of Findings:** The characteristics of life are a common theme used throughout the course. These questions test whether the students understand the basics of each of the general characters but giving them a situation. Each question has a key word that helps them to identify the correct answer. In question #1 and #2 I think the students still did not understand the key words to help them with the answer. Students clearly understood question #3.

**Recommendations:** I may try to give the students some practice questions along the way as homework so they can see how to answer some of these questions correctly. For the honor's section, their homework and quizzes are more of the written type versus the multiple choice they get on 2/3 of their exams.

**Outcome 2**

Demonstrate a coherent understanding of evolution and its relationship to the unity and diversity of living organisms.

▼ **Measure:** Means of assessment 109H  
Course level; Direct - Exam

**Description of Measurement Tool:** Multiple-choice questions will be inserted into various lecture exams.

**Criteria for Success: Individual & Collective Student Criterion:** Expected 70% success rate

**Cycle of Assessment:** Spring 2016

**Who is Responsible for Assessment Activity?:** Biology faculty currently teaching the course.

**Findings** for Means of assessment 109H

*No Findings Added*

**Overall Recommendations**

*No text specified*

**Plans of Action**

**Actions**

## BIOL 109H Honors Fundamentals of Biology Outcome Set

### Outcome

#### Outcome 1

Identify and explain the definitive characteristics of living organisms in a clear and concise manner.

#### ▼ Action: 109H Plan of Action for SLO #1

##### **This Action is associated with the following Findings**

No supporting Findings have been linked to this Action.

**Details of Plan of Action:** I think the numbers look pretty good. I may try to give the students some practice questions along the way as homework so they can see how to answer some of these questions correctly. For the honor's section, their homework and quizzes are more of the written type versus the multiple choice they get on 2/3 of their exams.

**Plan of Action Timeline:** Repeat assessment Spring 2017

**Who is responsible for carrying out the Plan of Action?:** Biology faculty currently teaching the course

**How will you determine if the Plan of Action has been effective?:** If students meet expectation (70% success).

**Additional Resources Required (if any):**

**Budget request amount:** \$0.00

**Priority:** Medium

#### Outcome 2

Demonstrate a coherent understanding of evolution and its relationship to the unity and diversity of living organisms.

#### ▼ Action: Means of assessment Spring 2013

##### **This Action is associated with the following Findings**

No supporting Findings have been linked to this Action.

**Details of Plan of Action:** All of these questions are application questions, which I find the students have a difficult time with. I will continue to use these but maybe give more application questions on quizzes and assignments to prepare them for the exams.

**Plan of Action Timeline:** Repeat assessment Spring 2016

**Who is responsible for carrying out the Plan of Action?:** Biology faculty currently teaching the course

**How will you determine if the Plan of Action has been effective?:** If students meet expectation.

**Additional Resources Required (if any):**

**Budget request amount:** \$0.00

**Priority:** Low

### ◆ Status Reports

#### Action Statuses

## BIOL 109H Honors Fundamentals of Biology Outcome Set

## Outcome

### Outcome 1

Identify and explain the definitive characteristics of living organisms in a clear and concise manner.

#### ▼ Action: 109H Plan of Action for SLO #1

**Details of Plan of Action:** I think the numbers look pretty good. I may try to give the students some practice questions along the way as homework so they can see how to answer some of these questions correctly. For the honor's section, their homework and quizzes are more of the written type versus the multiple choice they get on 2/3 of their exams.

**Plan of Action Timeline:** Repeat assessment Spring 2017

**Who is responsible for carrying out the Plan of Action?:** Biology faculty currently teaching the course

**How will you determine if the Plan of Action has been effective?:** If students meet expectation (70% success).

**Additional Resources Required (if any):**

**Budget request amount:** \$0.00

**Priority:** Medium

#### Status for 109H Plan of Action for SLO #1

*No Status Added*

### Outcome 2

Demonstrate a coherent understanding of evolution and its relationship to the unity and diversity of living organisms.

#### ▼ Action: Means of assessment Spring 2013

**Details of Plan of Action:** All of these questions are application questions, which I find the students have a difficult time with. I will continue to use these but maybe give more application questions on quizzes and assignments to prepare them for the exams.

**Plan of Action Timeline:** Repeat assessment Spring 2016

**Who is responsible for carrying out the Plan of Action?:** Biology faculty currently teaching the course

**How will you determine if the Plan of Action has been effective?:** If students meet expectation.

**Additional Resources Required (if any):**

**Budget request amount:** \$0.00

**Priority:** Low

#### Status for Means of assessment Spring 2013

*No Status Added*

## Status Summary

*No text specified*



## Summary of Next Steps

*No text specified*

## 2013-2014 Assessment Cycle

### Measurements

#### Outcomes and Measures

#### BIOL 109H Honors Fundamentals of Biology Outcome Set

##### Outcome

###### Outcome 1

Identify and explain the definitive characteristics of living organisms in a clear and concise manner.

▼ **Measure:** Means of assessment 109H  
Course level; Direct - Exam

**Description of Measurement Tool:** Three multiple-choice questions will be inserted into various lecture exams.

**Criteria for Success: Individual & Collective Student Criterion:** Expected 70% success rate

**Cycle of Assessment:** Spring 2015

**Who is Responsible for Assessment Activity?:** Biology faculty currently teaching the course

###### Outcome 2

Demonstrate a coherent understanding of evolution and its relationship to the unity and diversity of living organisms.

▼ **Measure:** Means of assessment 109H  
Course level; Direct - Exam

**Description of Measurement Tool:** Multiple-choice questions will be inserted into various lecture exams.

**Criteria for Success: Individual & Collective Student Criterion:** Expected 70% success rate

**Cycle of Assessment:** Spring 2016

**Who is Responsible for Assessment Activity?:** Biology faculty currently teaching the course.

### Findings

#### Finding per Measure

#### BIOL 109H Honors Fundamentals of Biology Outcome Set

##### Outcome

###### Outcome 1

Identify and explain the definitive characteristics of living organisms in a clear and concise manner.

▼ **Measure:** Means of assessment 109H  
Course level; Direct - Exam

**Description of Measurement Tool:** Three multiple-choice questions will be inserted into various lecture exams.

**Criteria for Success: Individual & Collective Student Criterion:** Expected 70% success rate

**Cycle of Assessment:** Spring 2015

**Who is Responsible for Assessment Activity?:** Biology faculty currently teaching the course

**Findings** for Means of assessment 109H

**Summary of Findings:** Three multiple-choice questions will be inserted into various lecture exams.

1. When an organism becomes a fossil, its tissues are replaced by minerals. It no longer exhibits most of the properties associated with life. Which property is retained by the fossil?  
 A) organization. B) homeostasis. C) growth and reproduction. D) response to stimuli. E) metabolism.

17/26 (65.4% correct)

2. Outside, the non-living world is unorganized and chaotic while inside an organism, there is a relatively constant environment. Maintenance of the constant internal environment exhibits which of the following properties associated with life? A) behavior. B) metabolism. C) growth and development. D) homeostasis. E) adaptation.

25/26 (96.2% correct)

3. The smallest unit that has all the characteristics of life is A) tissue. B) atom. C) molecule. D) organelle. E) cell.

13/26 (50.0% correct)

**Results:** Criteria for Success Achievement Status: Met

**Analysis of Findings:** The characteristics of life are a common theme used throughout the course. These questions test whether the students understand the basics of each of the general characters but giving them a situation. Each question has a key word that helps them to identify the correct answer. In question #1 and #3 I think the students still did not understand the key words to help them with the answer. Students clearly understood question #2.

**Recommendations:** I think the numbers look pretty good. I may try to give the students some practice questions along the way as homework so they can see how to answer some of these questions correctly. For the honor's section, their homework and quizzes are more of the written type versus the multiple choice they get on 2/3 of their exams.

**Outcome 2**

Demonstrate a coherent understanding of evolution and its relationship to the unity and diversity of living organisms.

▼ **Measure:** Means of assessment 109H  
 Course level; Direct - Exam

**Description of Measurement Tool:** Multiple-choice questions will be inserted into various lecture exams.

**Criteria for Success: Individual & Collective Student Criterion:** Expected 70% success rate

**Cycle of Assessment:** Spring 2016

**Who is Responsible for Assessment Activity?:** Biology faculty currently teaching the course.

**Findings for Means of assessment 109H**

*No Findings Added*

**Overall Recommendations**

*No text specified*

 **Plans of Action**

 **Status Reports**

## 2012-2013 Assessment Cycle

### Measurements

#### Outcomes and Measures

#### BIOL 109H Honors Fundamentals of Biology Outcome Set

##### Outcome

###### Outcome 1

Identify and explain the definitive characteristics of living organisms in a clear and concise manner.

▼ **Measure:** Means of assessment Spring 2012  
Course level; Direct - Exam

**Description of Measurement Tool:** Three multiple-choice questions will be inserted into various lecture exams.

**Criteria for Success: Individual & Collective Student Criterion:** Expected 70% success rate

**Cycle of Assessment:** Spring 2012

**Who is Responsible for Assessment Activity?:** Biology faculty currently teaching the course

###### Outcome 2

Demonstrate a coherent understanding of evolution and its relationship to the unity and diversity of living organisms.

▼ **Measure:** Means of assessment Spring 2013  
Course level; Direct - Exam

**Description of Measurement Tool:** Multiple-choice questions will be inserted into various lecture exams.

**Criteria for Success: Individual & Collective Student Criterion:** Expected 70% success rate

**Cycle of Assessment:** Spring 2013

**Who is Responsible for Assessment Activity?:** Biology faculty currently teaching the course.

### Findings

#### Finding per Measure

#### BIOL 109H Honors Fundamentals of Biology Outcome Set

##### Outcome

###### Outcome 1

Identify and explain the definitive characteristics of living organisms in a clear and concise manner.

▼ **Measure:** Means of assessment Spring 2012  
Course level; Direct - Exam

**Description of Measurement Tool:** Three multiple-choice questions will be inserted into various lecture exams.

**Criteria for Success: Individual & Collective Student Criterion:** Expected 70% success rate

**Cycle of Assessment:** Spring 2012

**Who is Responsible for Assessment Activity?:** Biology faculty currently teaching the course

**Findings** for Means of assessment Spring 2012

**Summary of Findings:**

1. When an organism becomes a fossil, its tissues are replaced by minerals. It no longer exhibits most of the properties associated with life. Which property is retained by the fossil?

A) organization. B) homeostasis. C) growth and reproduction. D) response to stimuli. E) metabolism.

17/26 (65.4% correct)

2. Outside, the non-living world is unorganized and chaotic while inside an organism, there is a relatively constant environment. Maintenance of the constant internal environment exhibits which of the following properties associated with life? A) behavior. B) metabolism. C) growth and development. D) homeostasis. E) adaptation.

25/26 (96.2% correct)

3. The smallest unit that has all the characteristics of life is

A) tissue. B) atom. C) molecule. D) organelle. E) cell.

13/26 (50.0% correct)

**Results:** Criteria for Success Achievement Status: Met

**Analysis of Findings:** The characteristics of life are a common theme used throughout the course. These questions test whether the students understand the basics of each of the general characters but giving them a situation. Each question has a key word that helps them to identify the correct answer. In question #1 and #3 I think the students still did not understand the key words to help them with the answer. Students clearly understood question #2.

**Recommendations:**

**Outcome 2**

Demonstrate a coherent understanding of evolution and its relationship to the unity and diversity of living organisms.

▼ **Measure:** Means of assessment Spring 2013  
Course level; Direct - Exam

**Description of Measurement Tool:** Multiple-choice questions will be inserted into various lecture exams.

**Criteria for Success: Individual & Collective Student Criterion:** Expected 70% success rate

**Cycle of Assessment:** Spring 2013

**Who is Responsible for Assessment Activity?:** Biology faculty currently teaching the course.

**Findings for Means of assessment Spring 2013**

**Summary of Findings: #1:** Natural selection is based on all of the following except:

- A. variation exists within populations
- B. the fittest individuals tend to leave the most offspring
- C. reproductive success differs among individuals within the same population
- D. populations tend to produce more individuals than the environment can support
- E. individuals must adapt to their environment

15/24 (62.5% correct)

**#2:** During drought years on the Galapagos, small, easily eaten seeds become rare leaving only large, hard-cased seeds that can be eaten only by birds with large beaks. If a drought persists for several years what should one expect to result from natural selection?

- A. small birds gaining larger beaks by exercising their mouth parts
- B. small birds mutating their beak genes with the result that later-generation offspring will have larger beaks
- C. small birds anticipating the long drought and eating more to gain weight and consequently growing larger beaks
- D. more small-beaked birds dying than the larger-beaked birds. The offspring produced in subsequent generations have a higher percentage of birds with large beaks

E. larger birds eating less so smaller birds can survive

21/24 (91.7% correct)

#3: In evolutionary terms, the more closely related two different organisms are, the:

- A. more similar their habitats are
- B. less similar their DNA sequences are
- C. more recently they shared a common ancestor
- D. less likely they are to be related to fossil forms
- E. more similar they are in size

12/24 (50% correct)

**Results:** Criteria for Success Achievement Status: Not Met

**Analysis of Findings:** Acceptable level of understanding on questions 1 and 2 but lower than expected for question 3.

**Recommendations:**

### Overall Recommendations

No text specified

### Plans of Action

#### Actions

### BIOL 109H Honors Fundamentals of Biology Outcome Set

#### Outcome

##### Outcome 1

Identify and explain the definitive characteristics of living organisms in a clear and concise manner.

##### ▼ Action: Means of assessment Spring 2012

**This Action is associated with the following Findings**

No supporting Findings have been linked to this Action.

**Details of Plan of Action:** I think the numbers look pretty good. I may try to give the students some practice questions along the way as homework so they can see how to answer some of these questions correctly. For the honor's section, their homework and quizzes are more of the written type versus the multiple choice they get on 2/3 of their exams.

**Plan of Action Timeline:** Repeat assessment Spring 2015

**Who is responsible for carrying out the Plan of Action?:** Biology faculty currently teaching the course

**How will you determine if the Plan of Action has been effective?:** If students meet expectation.

**Additional Resources Required (if any):**

**Budget request amount:** \$0.00

**Priority:** Low

##### Outcome 2

Demonstrate a coherent

##### ▼ Action: Means of assessment Spring 2013

understanding of evolution and its relationship to the unity and diversity of living organisms.

**This Action is associated with the following Findings**

No supporting Findings have been linked to this Action.

**Details of Plan of Action:** All of these questions are application questions, which I find the students have a difficult time with. I will continue to use these but maybe give more application questions on quizzes and assignments to prepare them for the exams.

**Plan of Action Timeline:** Repeat assessment Spring 2016

**Who is responsible for carrying out the Plan of Action?:** Biology faculty currently teaching the course

**How will you determine if the Plan of Action has been effective?:** If students meet expectation.

**Additional Resources Required (if any):**

**Budget request amount:** \$0.00

**Priority:** Low

 **Status Reports**

**Action Statuses**

**BIOL 109H Honors Fundamentals of Biology Outcome Set**

**Outcome**

**Outcome 1**

Identify and explain the definitive characteristics of living organisms in a clear and concise manner.

▼ **Action:** Means of assessment Spring 2012

**Details of Plan of Action:** I think the numbers look pretty good. I may try to give the students some practice questions along the way as homework so they can see how to answer some of these questions correctly. For the honor's section, their homework and quizzes are more of the written type versus the multiple choice they get on 2/3 of their exams.

**Plan of Action Timeline:** Repeat assessment Spring 2015

**Who is responsible for carrying out the Plan of Action?:** Biology faculty currently teaching the course

**How will you determine if the Plan of Action has been effective?:** If students meet expectation.

**Additional Resources Required (if any):**

**Budget request amount:** \$0.00

**Priority:** Low

**Status** for Means of assessment Spring 2012

**Current Status:** Not started

**Budget Status:** Other

**Explanation of current status:**

**Has the Plan of Action been effective? What are the next steps?:**

**Outcome 2**

Demonstrate a coherent understanding of evolution and its relationship to the unity and diversity of living organisms.

▼ **Action:** Means of assessment Spring 2013

**Details of Plan of Action:** All of these questions are application questions, which I find the students have a difficult time with. I will continue to use these but maybe give more application questions on quizzes and assignments to prepare them for the exams.

**Plan of Action Timeline:** Repeat assessment Spring 2016

**Who is responsible for carrying out the Plan of Action?:** Biology faculty currently teaching the course

**How will you determine if the Plan of Action has been effective?:** If students meet expectation.

**Additional Resources Required (if any):**

**Budget request amount:** \$0.00

**Priority:** Low

**Status** for Means of assessment Spring 2013

**Current Status:** Not started

**Budget Status:** Other

**Explanation of current status:**

**Has the Plan of Action been effective? What are the next steps?:**

**Status Summary**

*No text specified*

**Summary of Next Steps**

*No text specified*