

## Natural Sciences

### **Program learning outcomes: What Will I Learn?**

1. Interpret the central dogmas of at least two of the disciplines included in the natural sciences by defining the core theories and important discoveries that inform these disciplines.
2. Schematize how the research and discoveries in one field impact the research and discoveries in another for at least two natural sciences disciplines.
3. Summarize the complex ethical dilemmas faced by scientists as they pursue research, examine how the research may impact individuals, communities, and society across the globe and provide solutions to these problems/issues.
4. Examine the interaction between the move towards a globalized human society and growing concerns with resource allocation and environmental integrity from the perspective of at least two of the disciplines included in the natural sciences.
5. Analyze and evaluate the natural science perspective on global issues such as biological diversity and cultural diversity in changing societies and present possible solutions from natural science perspectives.

**Assessment Methodology**
**Metrics, Assessments, and Levels of Achievement**

The table below provides a brief overview of the measures selected to assess program outcomes for the Natural Science major. Assessment of program outcomes includes both direct and indirect measures. Benchmarks have been established to differentiate between three levels of program outcome achievement (exceeds expectations, meets expectations, and does not meet expectations). These three levels of achievement are color coded and used in the section below to indicate the level of achievement for each measure, for each learning outcome.

<b>Metric Type</b>	<b>Direct Measures</b>	<b>Indirect Measures*</b>
Assessments	Capstone Course	Exit Survey
Metrics	The percentage of the students demonstrating mastery of the learning outcome on the Capstone Rubric for the designated program outcome.	The mean of the graduates' perceptions of their achievement of the related program outcomes (on a 6-pt Likert-type scale).
Exceeds Expectations	≥ 90% of work Meets Expectations, 60% Exceeds Expectations, and <10% Does Not Meet Expectations	Mean ≥ 5
Meets Expectations	At least 85% of student work Meets Expectations, and ≤15% of student work Does Not Meet Expectations	4.0 - 4.99
Does Not Meet Expectations	< 85% of work Meets Expectations, and/or >15% Does Not Meet Expectations	Mean < 4

*Note: The results of the one year post-graduation survey are used as a reference to provide a longitudinal perspective on students' attainment of program (student) outcomes.*

*\*Insufficient N to present Indirect Alumni Survey Results.*

**Key:**

Result

N

## Program Outcome Achievement Results

January 2016 through December 2016

### Program / Student Learning Outcome 1

Interpret the central dogmas of at least two of the disciplines included in the natural sciences by defining the core theories and important discoveries that inform these disciplines.

Direct Measure		Indirect Measure	
Capstone Course LA498NS	88.6%	Exit Survey	*
	n = 35		n = 9

### Program / Student Learning Outcome 2

Schematize how the research and discoveries in one field impact the research and discoveries in another for at least two natural sciences disciplines.

Direct Measure		Indirect Measure	
Capstone Course LA498NS	91.4%	Exit Survey	*
	n = 35		n = 9

### Program / Student Learning Outcome 3

Summarize the complex ethical dilemmas faced by scientists as they pursue research, examine how the research may impact individuals, communities, and society across the globe and provide solutions to these problems/issues.

Direct Measure		Indirect Measure	
Capstone Course LA498NS	82.8%	Exit Survey	*
	n = 35		n = 9

### Program / Student Learning Outcome 4

Examine the interaction between the move towards a globalized human society and growing concerns with resource allocation and environmental integrity from the perspective of at least two of the disciplines included in the natural sciences.

Direct Measure		Indirect Measure	
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Capstone Course LA498NS	97.1%	Exit Survey	*
	n = 35		n = 9

**Program / Student Learning Outcome 5**

Analyze and evaluate the natural science perspective on global issues such as biological diversity and cultural diversity in changing societies and present possible solutions from natural science perspectives.

Direct Measure		Indirect Measure	
Capstone Course LA498NS	94.3%	Exit Survey	*
	n = 35		n = 9