

BS Natural Sciences

Program learning outcomes: What Will I Learn?

1. Compare and contrast key theories, principles, and processes of at least two disciplines in the natural sciences.
2. Demonstrate the ability to integrate scientific methods of inquiry and data analysis and communicate findings.
3. Analyze quantitative and qualitative research data and make evidence-based conclusions.
4. Use an interdisciplinary approach to address ethical issues raised by modern science and technology.
5. Apply an interdisciplinary scientific approach to solve complex contemporary global issues.

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.

Metric Type	Direct Measures	Indirect Measures	
Assessments	Capstone Course	Exit Survey*	One-Year Postgraduate 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 outcome (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.

Program Outcome Achievement Results

Summer I (May) 2020 through Fall II (October) 2021

Program Outcome		Direct Measure(s)	Indirect Measures	
1	Compare and contrast key theories, principles, and processes of at least two disciplines in the natural sciences.	Capstone Course LA498NS	Exit Survey	One-Year Survey
		100%	*	*
		n = 57	*	*
2	Demonstrate the ability to integrate scientific methods of inquiry and data analysis and communicate findings.	Capstone Course LA498NS	Exit Survey	One-Year Survey
		97%	*	*
		n = 55	*	*
3	Analyze quantitative and qualitative research data and make evidence-based conclusions.	Capstone Course LA498NS	Exit Survey	One-Year Survey
		98%	*	*
		n = 55	*	*
4	Use an interdisciplinary approach to address ethical issues raised by modern science and technology.	Capstone Course LA498NS	Exit Survey	One-Year Survey
		96%	*	*
		n = 56	*	*
5	Apply an interdisciplinary scientific approach to solve complex contemporary global issues.	Capstone Course LA498NS	Exit Survey	One-Year Survey
		98%	*	*
		n = 51	*	*

*Insufficient n