Report of Student Learning and Achievement
Concordia University Irvine
School of Arts and Sciences – Biology Program

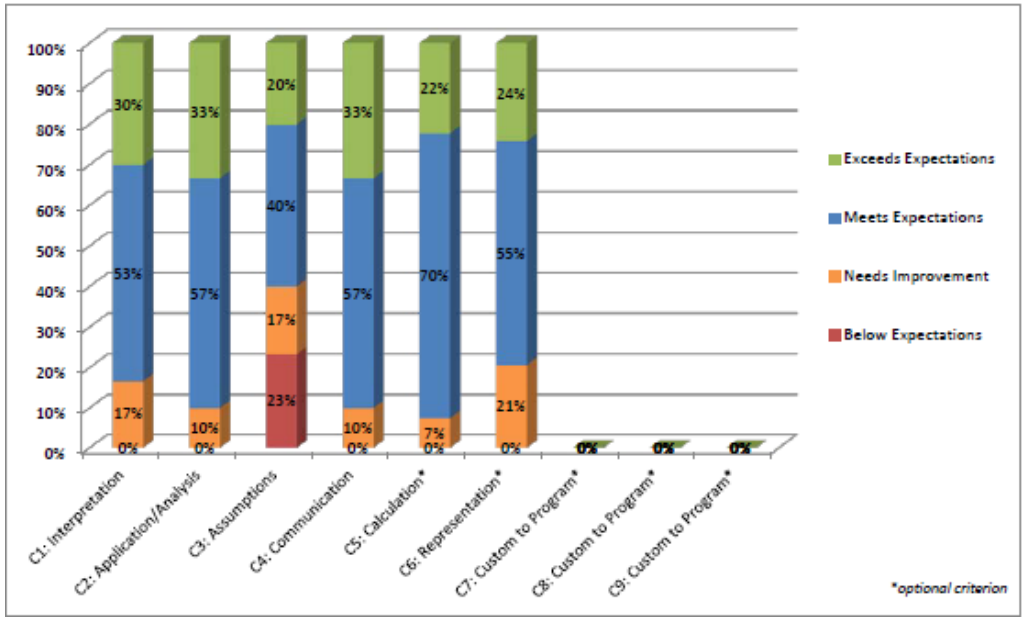
For Academic Year: 2017-2018

School of Arts and Sciences Mission
Biology Program Purpose
The **School of Arts and Sciences** strives to educate its students within the multi-faceted context of the liberal arts. Firmly rooted in the Christian tradition of Concordia University, the School confidently and freely explores both the riches of the past and the knowledge of today. The School cultivates within all students a disciplined and coherent worldview to prepare them to be active and effective leaders in today's world. The study of **Biology** endeavors to develop students' numerical and analytical abilities enabling them to investigate, formulate, analyze and articulate solutions to scientific, environmental and health problems within the disciplines of biology and other sciences.

Student Learning Assessment for Biology Program
Program Learning Outcomes (PLOs)
1. Students will demonstrate competency in written communication of scientific information (Written Communication)
2. Students will demonstrate competency in oral communication of scientific information (Oral Communication)
3. Students will demonstrate competency of content in cell biology, molecular biology, genetics, and organismal biology (Systematic Inquiry and Specialized Knowledge)
4. Students will apply appropriate mathematical and statistical analysis to data (Quantitative Reasoning)
5. Students will read, analyze, and critique primary scientific literature (Systemic Inquiry, Written Communication, Specialized Knowledge)
6. Students will demonstrate competency in basic scientific laboratory techniques (Systemic Inquiry, Specialized Knowledge)
7. Students will articulate a Christian worldview from a Lutheran perspective on various scientific topics (Christian Literacy and Faith)

Assessment Overview for Biology Program			
2017-18 PLOs Assessed	**Evidence and Assessment Instrument**	**Performance Objectives (Targets/Criteria) Measures:**	**Results 2017-18 for Measures of Student Learning:**
PLO: Apply appropriate mathematical and statistical analysis to data	Senior Research Paper for BIO 499 to be evaluated using adapted rubric from CUI Quantitative Reasoning Rubric.	75% or better of students meeting or exceeding expectations on each of the required criteria of the Quantitative Reasoning Rubric	Percent of student work meeting or exceeding expectations by criterion: Interpretation: 83% Application/Analysis: 90% Assumptions: 60% Communication: 90% Calculation: 93% Representation: 89%

Assessment Results for Biology Program



Summary of Achievement of Program Learning Outcomes		
2017-18 PLOs Assessed	**Student Evidence: Senior Research Paper**	**Student Evidence:**
Criterion Measured	**Performance Target Was…**	**Performance Target Was…**
1. Interpretation	Met	
2. Application/Analysis	Met	
3. Assumptions	Not Met	
4. Communication	Met	
5. Calculation	Met	
6. Representation	Met	

Proposed Course of Action for Improvement in Learning Outcomes
Expectations were met for all but one criteria but it was acknowledged that in the future raters need to be calibrated as there were some discrepancies in some of the criteria. Changes will be made to assignment description/instructions to stress the importance of articulationg the student's assumptions. The Department Chair and BIO 499 instructor will make sure the assignment description is updated and the program's assessment lead will ensure that calibration of raters is done in the future.