

## General Education Student Learning Report (rev. 7/15)

Fall 2018 – Spring 2019

# Department of Biology

Effectively assessing a degree program should address a number of factors:

- 1) Valid student learning outcomes should be clearly articulated;
- 2) Valid assessment measures should be used, consistent with the standards of professional practice;
- 3) There should be evidence that assessment data are being used by faculty to make necessary instructional or assessment changes; and there should be evidence that instructional or assessment changes are being implemented to improve student learning.

### Relationship of Degree Program Learning Outcomes to Departmental and University Missions

RSU Mission	General Education Mission
Our mission is to ensure students develop the skills and knowledge required to achieve professional and personal goals in dynamic local and global communities	General Education at Rogers State University provides a broad foundation of intellectual skills, knowledge, and perspectives to enable students across the University to achieve professional and personal goals in a dynamic local or global society.
RSU Commitments	General Education Outcomes
To provide quality associate, baccalaureate, and graduate degree opportunities and educational experiences which foster student excellence in oral and written communications, scientific reasoning, and critical and creative thinking.	<ol style="list-style-type: none"><li>1) Think critically and creatively.</li><li>2) Acquire, analyze, and evaluate knowledge of human cultures and the physical and natural world.</li><li>3) Use written, oral, and visual communication effectively.</li><li>4) Develop an individual perspective on the human experience, and demonstrate an understanding of diverse perspectives and values.</li><li>5) Demonstrate civic knowledge and engagement, ethical reasoning, and skills for lifelong learning.</li></ol>

RSU Mission	General Education Mission
To promote an atmosphere of academic and intellectual freedom and respect for diverse expression in an environment of physical safety that is supportive of teaching and learning.	
To provide a general liberal arts education that supports specialized academic programs and prepares students for lifelong learning and service in a diverse society.	<ol style="list-style-type: none"> <li>1) Think critically and creatively.</li> <li>2) Acquire, analyze, and evaluate knowledge of human cultures and the physical and natural world.</li> <li>3) Use written, oral, and visual communication effectively.</li> <li>4) Develop an individual perspective on the human experience, and demonstrate an understanding of diverse perspectives and values.</li> <li>5) Demonstrate civic knowledge and engagement, ethical reasoning, and skills for lifelong learning.</li> </ol>
To provide students with a diverse, innovative faculty dedicated to excellence in teaching, scholarly pursuits, and continuous improvement of programs.	
To provide university-wide student services, activities, and resources that complement academic programs.	
To support and strengthen student, faculty, and administrative structures that promote shared governance of the institution.	
To promote and encourage student, faculty, staff, and community interaction in a positive academic climate that creates opportunities for cultural, intellectual, and personal enrichment for the university and the communities it serves.	

## PART 1

### Discussion of Instructional Changes Resulting from 2017-2018 General Education Student Learning Report

List and discuss all instructional or assessment changes proposed in Part 4 of last year's General Education Student Learning Report, whether implemented or not. Any other changes or assessment activities from last year, but not mentioned in last year's report, should be discussed here as well. Emphasis should be placed on student learning and considerations such as course improvements, the assessment process, and the budget. If no changes were planned or implemented, simply state "No changes were planned or implemented."

Instructional or Assessment Changes	Changes Implemented (Y/N)	Impact of Changes on Curriculum or Budget
Hire a full-time instructor to coordinate freshman labs and teach lab sections.	Y	A new instructor was hired for the start of the academic year. This has had a very positive effect on the quality and consistency of instruction in our freshman labs.

## PART 2

### Discussion of the University Assessment Committee's 2017-2018 Peer Review Report

[Complete this part only if the general education course(s) was among those that were peer reviewed last year.] The University Assessment Committee in its Degree Program Peer Review Report provided feedback and recommendations for improvement in assessment. List or accurately summarize all feedback and recommendations from the committee, and state whether they were implemented or will be implemented at a future date. If they were not or will not be implemented, please explain why. If no changes were recommended last year, simply state "No changes were recommended."

Feedback and Recommended Changes from the University Assessment Committee	Suggestions Implemented (Y/N)	Changes that Were or Will Be Implemented, or Rationale for Changes that Were Not Implemented
No changes were recommended.		

### PART 3

#### Analysis of Evidence of Student Learning Outcomes

The five General Education Outcomes are listed below. For each outcome, indicate the General Education courses being assessed, and provide a brief narrative of the assessment measures and performance standards used, as well as the sampling methods and sample sizes. For each measure, document the results of the activity measured and draw any relevant conclusions related to strengths and weaknesses of their performance. Finally, indicate whether the performance measure was met or not.

#### OUTCOME 1: Think critically and creatively

A. Course	B. Assessment Measures	C. Performance Standards	D. Sampling Methods	E. Sample Size (N)	F. Results	G. Conclusions	H. Performance Standards Met (Y/N)																									
BIOL 1114: General Biology	Science Literacy Quiz  Comprises a 15-question multiple choice quiz on principles of science & the scientific method.  This quiz is given in our lab sections.	70% of students will score 70% or above.	Given to all enrolled students in Fall & Spring terms.	202	This table summarizes for student scores.	The average score was 78.2%.	Y																									
					<table><tr><th colspan="2">Score Distribution</th></tr><tr><td>0-49%</td><td>6</td></tr><tr><td>50-59%</td><td>7</td></tr><tr><td>60-69%</td><td>37</td></tr><tr><td>70-79%</td><td>28</td></tr><tr><td>80-89%</td><td>86</td></tr><tr><td>90-100%</td><td>38</td></tr><tr><td>Average:</td><td>78.2%</td></tr></table>	Score Distribution		0-49%	6	50-59%	7	60-69%	37	70-79%	28	80-89%	86	90-100%	38	Average:	78.2%	75% (152 of 202) scored ≥70%.  Student performance has met the standard in five of the six last years.  Moreover, the average score and the percentage of students scoring ≥70% are a tie for the highest seen since this measure was adopted in 2011.  Below are average score and percentage that met the standard for the last five years.  <table><tr><td>2018-19</td><td>78.2</td><td>75%</td></tr><tr><td>2017-18</td><td>71.3</td><td>56%</td></tr><tr><td>2016-17</td><td>74.8</td><td>70%</td></tr><tr><td>2015-16</td><td>77.6</td><td>73%</td></tr><tr><td>2014-15</td><td>77.7</td><td>75%</td></tr></table>	2018-19	78.2	75%	2017-18	71.3	56%	2016-17	74.8	70%	2015-16
Score Distribution																																
0-49%	6																															
50-59%	7																															
60-69%	37																															
70-79%	28																															
80-89%	86																															
90-100%	38																															
Average:	78.2%																															
2018-19	78.2	75%																														
2017-18	71.3	56%																														
2016-17	74.8	70%																														
2015-16	77.6	73%																														
2014-15	77.7	75%																														

A. Course	B. Assessment Measures	C. Performance Standards	D. Sampling Methods	E. Sample Size (N)	F. Results	G. Conclusions	H. Performance Standards Met (Y/N)																									
						This demonstrates that students can apply critical thinking in evaluating scientific evidence.																										
BIOL 1144: General Cell Biology	Science Literacy Quiz  Comprises a 15-question multiple choice assessment on the principles of science and the scientific method.  This quiz is given in our lab sections.	70% of students will score 70% or above.	Given to all enrolled students in Fall & Spring terms.	291	This table summarizes student scores.	The average score was 76.8%.	Y																									
					<table><tr><th colspan="2">Score Distribution</th></tr><tr><td>0-49%</td><td>15</td></tr><tr><td>50-59%</td><td>6</td></tr><tr><td>60-69%</td><td>50</td></tr><tr><td>70-79%</td><td>50</td></tr><tr><td>80-89%</td><td>133</td></tr><tr><td>90-100%</td><td>37</td></tr><tr><td>Average:</td><td>76.8%</td></tr></table>	Score Distribution		0-49%	15	50-59%	6	60-69%	50	70-79%	50	80-89%	133	90-100%	37	Average:	76.8%	76% (220 of 291) scored ≥70%.  Below are assessment data for the recent cycles.  Student performance has met the standard in all years since 2012.  Below are average score and percentage that met the standard for the last five years. <table><tr><td>2018-19</td><td>76.8</td><td>76%</td></tr><tr><td>2017-18</td><td>77.4</td><td>74%</td></tr><tr><td>2016-17</td><td>78.7</td><td>75%</td></tr><tr><td>2015-16</td><td>79.8</td><td>82%</td></tr><tr><td>2014-15</td><td>77.1</td><td>70%</td></tr></table> This demonstrates that students can apply critical thinking in evaluating scientific evidence.	2018-19	76.8	76%	2017-18	77.4	74%	2016-17	78.7	75%	2015-16
Score Distribution																																
0-49%	15																															
50-59%	6																															
60-69%	50																															
70-79%	50																															
80-89%	133																															
90-100%	37																															
Average:	76.8%																															
2018-19	76.8	76%																														
2017-18	77.4	74%																														
2016-17	78.7	75%																														
2015-16	79.8	82%																														
2014-15	77.1	70%																														

**OUTCOME 2: Acquire, analyze, and evaluate knowledge of human cultures and the physical and natural world.**

A. Course	B. Assessment Measures	C. Performance Standards	D. Sampling Methods	E. Sample Size (N)	F. Results	G. Conclusions	H. Performance Standards Met (Y/N)																															
BIOL 1114: General Biology	<p>Comprehensive Pre-Post Exam</p> <p>50 multiple-choice question exam on basic concepts of biology.</p> <p>Administered on first day of lecture class and at the time of final exam.</p> <p>We consider two results: 1) post test scores, and 2) the difference in pre-post test scores.</p> <p>Here, we discuss the post-test score results. Change in pre-post scores is discussed in next section.</p>	70% of students will score 70% or above.	Given to all enrolled students in Fall & Spring terms.	206	<p>This table summarizes student scores.</p> <table><tr><th colspan="2">Score Distribution</th></tr><tr><td>0-49%</td><td>29</td></tr><tr><td>50-59%</td><td>44</td></tr><tr><td>60-69%</td><td>35</td></tr><tr><td>70-79%</td><td>37</td></tr><tr><td>80-89%</td><td>36</td></tr><tr><td>90-100%</td><td>25</td></tr><tr><td>Average:</td><td>67.4%</td></tr></table>	Score Distribution		0-49%	29	50-59%	44	60-69%	35	70-79%	37	80-89%	36	90-100%	25	Average:	67.4%	<p>The average score was 67%.</p> <p>A total of only 48% (98 of 206) of students met the standard of scoring 70% or higher.</p> <p>Students consistently fail to meet our standard for the post-test score. Performance on pre-post change, on the other hand, typically exceeds our standard (see below). Improvement over the pretest has exceeded 25 percentage points in four of the last five years. This is indicative of a student population with a poor aptitude for science upon entering into college and may need more than one science course to get them to the desired level.</p> <p>Below are average score and percentage that met the standard for the last five years.</p> <table><tr><td>2018-19</td><td>67.4</td><td>48%</td></tr><tr><td>2017-18</td><td>68.1</td><td>47%</td></tr><tr><td>2016-17</td><td>70.9</td><td>58%</td></tr><tr><td>2015-16</td><td>64.4</td><td>35%</td></tr><tr><td>2014-15</td><td>67.7</td><td>48%</td></tr></table>	2018-19	67.4	48%	2017-18	68.1	47%	2016-17	70.9	58%	2015-16	64.4	35%	2014-15	67.7	48%	N
Score Distribution																																						
0-49%	29																																					
50-59%	44																																					
60-69%	35																																					
70-79%	37																																					
80-89%	36																																					
90-100%	25																																					
Average:	67.4%																																					
2018-19	67.4	48%																																				
2017-18	68.1	47%																																				
2016-17	70.9	58%																																				
2015-16	64.4	35%																																				
2014-15	67.7	48%																																				

A. Course	B. Assessment Measures	C. Performance Standards	D. Sampling Methods	E. Sample Size (N)	F. Results	G. Conclusions	H. Performance Standards Met (Y/N)																																				
BIOL 1114: General Biology	<p>Comprehensive Pre-Post Exam</p> <p>50 multiple-choice question exam on basic concepts of biology.</p> <p>Administered on first day of lecture class and at the time of final exam.</p> <p>We consider two results: 1) post test scores, and 2) the difference in pre-post test scores</p> <p>Here, we discuss the change between pre and pre-post test scores.</p>	70% of students will improve on the post-test by 20% or greater over the pre-test.	Given to all enrolled students in Fall & Spring terms.	196	<p>This frequency table summarizes the change in student scores for the pre &amp; post test scores.</p> <table><tr><th colspan="2">Score Distribution (Post Test Improvement)</th></tr><tr><td>0-10%</td><td>12</td></tr><tr><td>10-20%</td><td>47</td></tr><tr><td>20-30%</td><td>50</td></tr><tr><td>30-40%</td><td>41</td></tr><tr><td>40-50%</td><td>17</td></tr><tr><td>50-60%</td><td>18</td></tr><tr><td>60-70%</td><td>11</td></tr><tr><td>Average gain:</td><td>29.1</td></tr></table>	Score Distribution (Post Test Improvement)		0-10%	12	10-20%	47	20-30%	50	30-40%	41	40-50%	17	50-60%	18	60-70%	11	Average gain:	29.1	<p>Mean improvement was 29 percentage points.</p> <p>70.0% (137 of 196) of students improved their score by 20 percentage points or more.</p> <p>Students have met the standard in four of the last five years. Moreover, the improvement of 29.1 percentage points over the pre-test was second highest seen since this measure was adopted in 2011.</p> <p>These results indicate our students are showing substantial improvement in the ability to acquire and evaluate knowledge of the natural world.</p> <p>Below are the average score improvement and percentage that met the standard for the last five years.</p> <table><tr><td>2018-19</td><td>29.1</td><td>70%</td></tr><tr><td>2017-18</td><td>25.6</td><td>74%</td></tr><tr><td>2016-17</td><td>30.0</td><td>81%</td></tr><tr><td>2015-16</td><td>21.7</td><td>58%</td></tr><tr><td>2014-15</td><td>26.0</td><td>72%</td></tr><tr><td>2011-12</td><td>21.0</td><td>56%</td></tr></table>	2018-19	29.1	70%	2017-18	25.6	74%	2016-17	30.0	81%	2015-16	21.7	58%	2014-15	26.0	72%	2011-12	21.0	56%	Y
Score Distribution (Post Test Improvement)																																											
0-10%	12																																										
10-20%	47																																										
20-30%	50																																										
30-40%	41																																										
40-50%	17																																										
50-60%	18																																										
60-70%	11																																										
Average gain:	29.1																																										
2018-19	29.1	70%																																									
2017-18	25.6	74%																																									
2016-17	30.0	81%																																									
2015-16	21.7	58%																																									
2014-15	26.0	72%																																									
2011-12	21.0	56%																																									

A. Course	B. Assessment Measures	C. Performance Standards	D. Sampling Methods	E. Sample Size (N)	F. Results	G. Conclusions	H. Performance Standards Met (Y/N)											
BIOL 1114R: General Biology (Online)	Comprehensive Final Exam	70% of students will score 70% or above.	Given to all enrolled students in Fall & Spring terms.	100	This frequency table summarizes student scores.	The average score was 81%.	Y											
	Comprehensive review of topics covered over the entire term.				<table><tr><th colspan="2">Score Distribution</th></tr><tr><td>0-49%</td><td>0</td></tr><tr><td>50-59%</td><td>4</td></tr><tr><td>60-69%</td><td>5</td></tr><tr><td>70-79%</td><td>28</td></tr><tr><td>80-89%</td><td>51</td></tr><tr><td>90-100%</td><td>12</td></tr><tr><td>Average:</td><td>81.1%</td></tr></table>	Score Distribution		0-49%	0	50-59%	4	60-69%	5	70-79%	28	80-89%	51	90-100%
Score Distribution																		
0-49%	0																	
50-59%	4																	
60-69%	5																	
70-79%	28																	
80-89%	51																	
90-100%	12																	
Average:	81.1%																	



A. Course	B. Assessment Measures	C. Performance Standards	D. Sampling Methods	E. Sample Size (N)	F. Results	G. Conclusions	H. Performance Standards Met (Y/N)																
						than the pre-post exam. Differences in student scores may therefore reflect a difference in test difficulty.																	
BIOL 1144: General Cell Biology	<p>Comprehensive Pre-Post Exam</p> <p>50 multiple-choice question exam on basic concepts of biology.</p> <p>Administered on first day of lecture class and at the time of final exam.</p> <p>We consider two results: 1) post test scores, and 2) the difference in pre-post test scores.</p> <p>Here, we discuss the post-test score results. Change in pre-post scores is discussed in</p>	70% of students will score 70% or above.	Given to all enrolled students in Fall & Spring terms.	279	<p>This frequency table summarizes student scores.</p> <table><tr><th colspan="2">Score Distribution</th></tr><tr><td>0-49%</td><td>36</td></tr><tr><td>50-59%</td><td>51</td></tr><tr><td>60-69%</td><td>61</td></tr><tr><td>70-79%</td><td>54</td></tr><tr><td>80-89%</td><td>45</td></tr><tr><td>90-100%</td><td>32</td></tr><tr><td>Average:</td><td>67.8%</td></tr></table>	Score Distribution		0-49%	36	50-59%	51	60-69%	61	70-79%	54	80-89%	45	90-100%	32	Average:	67.8%	<p>The average score was 68%.</p> <p>47% (131 of 279) scored <math>\geq 70\%</math>.</p> <p>Students have failed to meet our standard for this measure in all years since 2012.</p> <p>Like BIOL 1114, students consistently fail to meet our standard for the post-test score. Performance on pre-post change, on the other hand, typically exceeds our standard (see below). Improvement over the pretest has exceeded 25 percentage points in every years since 2011. This reflects a student population with a poor aptitude for science upon entering into college and may need more than one science course to get them to the desired level.</p>	N
Score Distribution																							
0-49%	36																						
50-59%	51																						
60-69%	61																						
70-79%	54																						
80-89%	45																						
90-100%	32																						
Average:	67.8%																						

A. Course	B. Assessment Measures	C. Performance Standards	D. Sampling Methods	E. Sample Size (N)	F. Results	G. Conclusions	H. Performance Standards Met (Y/N)																
	next section.					<p>Below are the average post-test score and the percentage of students that met the standard for the last five years.</p> <p>2018-19 67.8 47% 2017-18 66.4 45% 2016-17 65.0 40% 2015-16 66.3 44% 2014-15 69.0 55%</p>																	
<b>BIOL 1144:</b> General Cell Biology	<p>Comprehensive Pre-Post Exam</p> <p>50 multiple-choice question exam on basic concepts of biology.</p> <p>Administered on first day of lecture class and at the time of final exam.</p> <p>We consider two results: 1) post test scores, and 2) the difference in pre-post test scores</p> <p>Here, we discuss the change</p>	70% of students will improve on the post-test by 20% or greater over the pre-test.	Given to all enrolled students in Fall & Spring terms.	217	<p>This frequency table summarizes student scores.</p> <p><b>Score Distribution</b> (Post Test Improvement)</p> <table><tr><td>0-10%</td><td>16</td></tr><tr><td>10-20%</td><td>48</td></tr><tr><td>20-30%</td><td>58</td></tr><tr><td>30-40%</td><td>49</td></tr><tr><td>40-50%</td><td>23</td></tr><tr><td>50-60%</td><td>10</td></tr><tr><td>60-70%</td><td>13</td></tr><tr><td><b>Average gain:</b></td><td>28.5</td></tr></table>	0-10%	16	10-20%	48	20-30%	58	30-40%	49	40-50%	23	50-60%	10	60-70%	13	<b>Average gain:</b>	28.5	<p>Mean improvement was 29 percentage points.</p> <p>71% (153 of 217) of students improved their score by ≥20%.</p> <p>As in the past, however, a much larger percentage of the student population are meeting this standard vs the post-test score measure with the same test (71% vs 47%).</p> <p>This is the first time since 2014 that our students have successfully met this standard.</p> <p>Moreover, the improvement of 28.5 percentage points over the pre-test was highest seen since 2014.</p>	Y
0-10%	16																						
10-20%	48																						
20-30%	58																						
30-40%	49																						
40-50%	23																						
50-60%	10																						
60-70%	13																						
<b>Average gain:</b>	28.5																						

A. Course	B. Assessment Measures	C. Performance Standards	D. Sampling Methods	E. Sample Size (N)	F. Results	G. Conclusions	H. Performance Standards Met (Y/N)																
	between pre and pre-post test scores.					<p>These results indicate our students are showing substantial improvement in the ability to acquire and evaluate knowledge of the natural world.</p> <p>Below are the average score improvement and percentage that met the standard for the last five years.</p> <table><tr><td>2018-19</td><td>28.5</td><td>71%</td></tr><tr><td>2017-18</td><td>25.8</td><td>67%</td></tr><tr><td>2016-17</td><td>24.5</td><td>61%</td></tr><tr><td>2015-16</td><td>26.5</td><td>67%</td></tr><tr><td>2014-15</td><td>29.0</td><td>75%</td></tr></table>	2018-19	28.5	71%	2017-18	25.8	67%	2016-17	24.5	61%	2015-16	26.5	67%	2014-15	29.0	75%		
2018-19	28.5	71%																					
2017-18	25.8	67%																					
2016-17	24.5	61%																					
2015-16	26.5	67%																					
2014-15	29.0	75%																					
<b>BIOL 1134:</b> General Environmental Biology	Comprehensive Final Exam  Multiple-choice comprehensive exam of the concepts covered during the semester.	70% of students will score 70% or higher.	Given to all enrolled students in the Fall & Spring terms	31	<p>This frequency table summarizes student scores.</p> <table><tr><th colspan="2">Score Distribution</th></tr><tr><td>0-49%</td><td>2</td></tr><tr><td>50-59%</td><td>1</td></tr><tr><td>60-69%</td><td>10</td></tr><tr><td>70-79%</td><td>8</td></tr><tr><td>80-89%</td><td>8</td></tr><tr><td>90-100%</td><td>2</td></tr><tr><td><b>Average:</b></td><td>72.2%</td></tr></table>	Score Distribution		0-49%	2	50-59%	1	60-69%	10	70-79%	8	80-89%	8	90-100%	2	<b>Average:</b>	72.2%	<p>The average test score was 72%.</p> <p>58% (18 of 31) scored ≥70%.</p> <p>This is the first time since 2011 that students failed to meet our standard. This course only had 31 students for the academic year. Thus a drop in a relatively few number of student has a large impact on percentages.</p> <p>Students in this course typically outperform those in BIOL 1114, as indicated</p>	N
Score Distribution																							
0-49%	2																						
50-59%	1																						
60-69%	10																						
70-79%	8																						
80-89%	8																						
90-100%	2																						
<b>Average:</b>	72.2%																						

A. Course	B. Assessment Measures	C. Performance Standards	D. Sampling Methods	E. Sample Size (N)	F. Results	G. Conclusions	H. Performance Standards Met (Y/N)																
						<p>by the date below. Hopefully this drop in student performance is a random blip. We will reassess the situation if this becomes a trend.</p> <p>Below are the average test score and the percentage of students that met the standard for the last five years.</p> <p>2018-19 72.2 58% 2017-18 75.6 74% 2016-17 80.0 82% 2015-16 80.7 70% 2014-15 77.2 70%</p>																	
<b>BIOL 1134R:</b> General Environmental Biology (Online)	Final Exam or Average of Unit Exams	70% of students will score 70% or above.	Given to all enrolled students in online sections	35	<p>This frequency table summarizes student scores.</p> <table><tr><th colspan="2">Score Distribution</th></tr><tr><td>0-49%</td><td>1</td></tr><tr><td>50-59%</td><td>1</td></tr><tr><td>60-69%</td><td>2</td></tr><tr><td>70-79%</td><td>10</td></tr><tr><td>80-89%</td><td>18</td></tr><tr><td>90-100%</td><td>3</td></tr><tr><td><b>Average:</b></td><td>78.2%</td></tr></table>	Score Distribution		0-49%	1	50-59%	1	60-69%	2	70-79%	10	80-89%	18	90-100%	3	<b>Average:</b>	78.2%	<p>The average test score was 78%.</p> <p>89% (31 of 35) scored ≥70%.</p> <p>These are the highest scores we have seen in this course in over five years.</p> <p>This indicates that students are adequately demonstrating an ability to acquire and analyze knowledge about the natural world.</p> <p>Below are assessment data from the last cycles.</p>	Y
Score Distribution																							
0-49%	1																						
50-59%	1																						
60-69%	2																						
70-79%	10																						
80-89%	18																						
90-100%	3																						
<b>Average:</b>	78.2%																						

A. Course	B. Assessment Measures	C. Performance Standards	D. Sampling Methods	E. Sample Size (N)	F. Results	G. Conclusions	H. Performance Standards Met (Y/N)
						<p>Shown are the average test score and the percentage of students that met the standard for the last five years.</p> <p>2018-19 78.2 89%  2017-18 78.1 85%  2016-17 No data  2015-16 75.0 77%  2014-15 76.0 85%</p>	

**OUTCOME 3: Use written, oral, and visual communication effectively.**

A. Course	B. Assessment Measures	C. Performance Standards	D. Sampling Methods	E. Sample Size (N)	F. Results	G. Conclusions	H. Performance Standards Met (Y/N)	
BIOL 3103: Plants and Civilization	Written Paper  This term students presented their research as a poster for the whole class.	70% of students will score 70% or higher.	Given to all enrolled students in the semester.	30	This table summarizes student scores.	The average test score was 86%.	Y	
					Score Distribution			100% (30 of 30) of students scored ≥70%.  Students have met the desired standard in every year that is has been assessed. This shows students are meeting the goal of effective written & visual communication.
					0-49%	0		
					50-59%	0		
					60-69%	0		
					70-79%	5		
					80-89%	22		
					90-100%	3		
Average:	85.9%							

**OUTCOME 4: Develop an individual perspective on the human experience, and demonstrate an understanding of diverse perspectives and values.**

A. Course	B. Assessment Measures	C. Performance Standards	D. Sampling Methods	E. Sample Size (N)	F. Results	G. Conclusions	H. Performance Standards Met (Y/N)																
BIOL 3103: Plants and Civilization	Comprehensive Final Exam	70% of students will score 70% or higher.	Given to all enrolled students in the semester.	30	<p>This table summarizes student scores.</p> <table><tr><th colspan="2">Score Distribution</th></tr><tr><td>0-49%</td><td>0</td></tr><tr><td>50-59%</td><td>0</td></tr><tr><td>60-69%</td><td>0</td></tr><tr><td>70-79%</td><td>1</td></tr><tr><td>80-89%</td><td>9</td></tr><tr><td>90-100%</td><td>20</td></tr><tr><td>Average:</td><td>89.6%</td></tr></table>	Score Distribution		0-49%	0	50-59%	0	60-69%	0	70-79%	1	80-89%	9	90-100%	20	Average:	89.6%	<p>The average test score was 90%.</p> <p>100% (30 of 30) of students scored ≥70%.</p> <p>Students have met the desired standard in every year that is has been assessed. This shows students are meeting the goal of developing an understanding of the human experience.</p>	Y
Score Distribution																							
0-49%	0																						
50-59%	0																						
60-69%	0																						
70-79%	1																						
80-89%	9																						
90-100%	20																						
Average:	89.6%																						

**OUTCOME 5: Demonstrate civic knowledge and engagement, ethical reasoning, and skills for lifelong learning.**

A. Course	B. Assessment Measures	C. Performance Standards	D. Sampling Methods	E. Sample Size (N)	F. Results	G. Conclusions	H. Performance Standards Met (Y/N)
N/A							

## PART 4

### Proposed Instructional Changes Based on Conclusions Drawn from Evidence Presented Above

State any proposed instructional or assessment changes to be implemented for the next academic year. Explain the rationale for these changes and how they will impact student learning and other considerations, such as curriculum, degree plan, assessment process, or budget. If no changes are planned, simply state "No changes are planned."

General Education Outcomes	Instructional or Assessment Changes	Rationale for Changes	Impact of Planned Changes on Student Learning and Other Considerations.
SLO #1 and SLO #2	We may adopt a set of common assessment questions to be used by all lab instructors on lab exams	We must rely heavily on adjunct instructors for covering our numerous freshman biology lab sections. Continuity and consistency of instruction among these instructors has long been a concern.	Hopefully, data from these questions can help us pinpoint deficient areas and improve student learning.
SLO #1 and SLO #2	Changes to the lab curriculum.	Finding the right mixture of lab content is an ongoing process in our freshman labs. Some labs try to incorporate too much into the 110 minute period, while others are too sparse. We are also trying to incorporate more scientific instrumentation and more essential lab techniques into our lab activities.	The hands-on nature of lab classes has always been an important tool in teaching science. Hopefully, these changes will make the lab component a more effective part of our freshman biology curriculum.

## PART 6 (A & B)

### Documentation of Faculty Participation and Review

A. Provide the names and signatures of all faculty members who contributed to this report and indicate their respective roles.

Faculty Members	Roles in the Assessment Process (e.g., collect data, analyze data, prepare report, review report, etc.)	Signatures
Full-time Faculty Craig Zimmermann	Provided data, analyzed data, prepared report	<i>Craig Zimmermann</i>
Jerry Bowen	Provided data and reviewed report	<i>Jerry Bowen</i> 5 June 2019
Jin Seo	Provided data and reviewed report	<i>Jin Seo</i> 6/5/2019
Don Glass	Provided data and reviewed report	<i>Don Glass</i>
Claudia Glass	Provided data and reviewed report	<i>Claudia Glass</i>
Lisa Overall	Provided data and reviewed report	
Cheyenne Olson	Provided data and reviewed report	<i>Cheyenne Olson</i>
Jae-Ho Kim	Reviewed report	<i>Jae-Ho Kim</i>
Adjunct Faculty Janette Tuckey Rance Kingfisher Gifty Benson	Provided data Provided data Provided data	

B. Reviewed by:

Titles	Names	Signatures	Date
Department Head	<i>Jerry Bowen</i>	<i>Jerry Bowen</i>	<i>07 June 2019</i>
Dean	<i>Keith Martin</i>	<i>Keith H. Martin</i>	<i>6/12/19</i>