

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

Fall 2016 – Spring 2017

# 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 2014-2015 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
A new textbook was adopted for BIOL 1144. <i>Biology: Concepts and Investigations</i> (3e) by Mariëlle Hoefnagels	Y	Faculty found this book to be a better presentation of topics for a non-majors audience.
Dr. Lisa Overall was hired for Fall 2016 to replace Adele Register after she retired. Dr. Overall teaches both lecture and lab sections for several general education courses at the Claremore and Bartlesville campuses.	Y	The department must rely heavily on adjunct instructors to cover the many lab sections for BIOL 1114/BIOL 1144 at the Claremore campus. Dr. Overall typically teaches multiple sections of cell biology lab which has helped reduce the need for adjunct instructors. It is believed full-time faculty provide superior instruction in these sections.
Some instructors are incorporating the McGraw-Hill CONNECT system as graded homework into their BIOL 1114 courses. CONNECT is an online learning tool created by the course textbook publisher to support and supplement the concepts covered in book.	Y	Many students find freshman biology to be difficult. It is hoped the addition of this learning tool will help students learn the key concepts covered in class. The graded homework also offer students with an addition source of points for the course grade.

## PART 2

### Discussion of the University Assessment Committee's 2014-2015 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
Not peer reviewed in last cycle		

### 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	70% of students will score 70% or above.	Given to all enrolled students in Fall & Spring terms.	160	This table summarizes for student scores.	The average score was 74.5%.	Y	
	Comprises a 15-question multiple choice quiz on principles of science & the scientific method.				Score Distribution	70% (111of 160) scored ≥70%.		
					0-49%	6		There was a slight drop in the student performance over the last couple years.
					50-59%	4		
This quiz is given in our lab sections.	60-69%	39	Students, nonetheless, met the standard for the fourth consecutive year.					
	70-79%	32		This shows students are demonstrating proficiency in critical and creative thinking skills.				
	80-89%	62	Below are data for the last					
90-100%	14							
Average:	74.5%							

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)
						assessment cycles.  Shown are the average score and percentage that met the standard.  2016-17    74.8    70% 2015-16    77.6    73% 2014-15    77.7    75% 2013-14    78.2    75% 2012-13    70.8    55% 2011-12    69.5    56%	
BIOL 1144: General Cell Biology	Science Literacy Quiz	70% of students will score 70% or above.	Given to all enrolled students in Fall & Spring terms.	286	This table summarizes student scores.	The average score was 79%.	Y
	<div>Score Distribution</div> <div>0-49%9</div> <div>50-59%12</div> <div>60-69%51</div> <div>70-79%46</div> <div>80-89%104</div> <div>90-100%64</div> <div>Average:78.7%</div>				75% (214 of 286) scored ≥70%.  Below are assessment data for the recent cycles.  While a modest dip from last year, these results are still strong. This shows students are developing critical and creative thinking skills.  Shown are the average score and percentage that met the standard.  2016-17    78.7    75% 2015-16    79.8    82% 2014-15    77.1    70% 2013-14    82.0    73% 2012-13    76.0    70% 2011-12    74.0    65%		
	Comprises a 15-question multiple choice assessment on the principles of science and the scientific method.  This quiz is given in our lab sections.						

**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.	197	<p>This table summarizes student scores.</p> <table><tr><th colspan="2">Score Distribution</th></tr><tr><td>0-49%</td><td>12</td></tr><tr><td>50-59%</td><td>18</td></tr><tr><td>60-69%</td><td>51</td></tr><tr><td>70-79%</td><td>60</td></tr><tr><td>80-89%</td><td>38</td></tr><tr><td>90-100%</td><td>15</td></tr><tr><td>Average:</td><td>70.9%</td></tr></table>	Score Distribution		0-49%	12	50-59%	18	60-69%	51	70-79%	60	80-89%	38	90-100%	15	Average:	70.9%	<p>The average score was 71%.</p> <p>A total of 58% of students met the standard of scoring 70% or higher.</p> <p>While we failed to meet the desired standard, this is the <u>highest</u> mean score seen on this measure since we adopted it. It is a substantial change seen over recent years. The number of students meeting the desired standard also jumped by over 20%. This is an encouraging change for this learning outcome.</p> <p>Below are assessment data for the recent cycles.</p> <p>Shown are the average score and percentage that met the standard.</p> <table><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><tr><td>2013-14</td><td>63.3</td><td>37%</td></tr><tr><td>2012-13</td><td>66.0</td><td>44%</td></tr><tr><td>2011-12</td><td>30.0</td><td>29%</td></tr></table>	2016-17	70.9	58%	2015-16	64.4	35%	2014-15	67.7	48%	2013-14	63.3	37%	2012-13	66.0	44%	2011-12	30.0	29%	N
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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	Comprehensive Pre-Post Exam	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.	180	This frequency table summarizes the change in student scores for the pre & post test scores.	Mean improvement was 30 percentage points.	Y
	50 multiple-choice question exam on basic concepts of biology.					81% (146 of 180) of students improved their score by 20 percentage points or more.	
	Administered on first day of lecture class and at the time of final exam.					This is the second time we have met the standard since we started using this measure in 2009.	
	We consider two results: 1) post test scores, and 2) the difference in pre-post test scores					Moreover, the average improvement of 30 percentage points is the <u>highest</u> we have seen. The 81% success rate is very encouraging given this is not a majors science course.	
	Here, we discuss the change between pre and pre-post test scores.					Below are assessment data for the recent cycles.	
						Shown are the average score improvement and percentage that met the standard.	
						2016-17 30.0 81%	
						2015-16 21.7 58%	
						2014-15 26.0 72%	
						2013-14 23.0 63%	
	2012-13 23.0 65%						
	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  Comprehensive review of topics covered over the entire term.  Includes short answer, essay, and multiple- choice questions.	70% of students will score 70% or above.	Given to all enrolled students in Fall & Spring terms.	83	<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>2</td></tr><tr><td>60-69%</td><td>4</td></tr><tr><td>70-79%</td><td>11</td></tr><tr><td>80-89%</td><td>24</td></tr><tr><td>90-100%</td><td>40</td></tr><tr><td>Average:</td><td>86.0%</td></tr></table>	Score Distribution		0-49%	2	50-59%	2	60-69%	4	70-79%	11	80-89%	24	90-100%	40	Average:	86.0%	<p>The average score was 86%.</p> <p>90% (75 of 83) scored ≥70%.</p> <p>This shows students are demonstrating the ability to acquire and analyze knowledge of the physical and natural world.</p> <p>Below are assessment data for the recent cycles.</p> <p>Shown are the average score and percentage that met the standard.</p> <table><tr><td>2016-17</td><td>86.0</td><td>90%</td></tr><tr><td>2015-16</td><td>79.1</td><td>84%</td></tr><tr><td>2014-15</td><td>79.2</td><td>86%</td></tr><tr><td>2013-14</td><td>83.8</td><td>95%</td></tr><tr><td>2012-13</td><td>75.0</td><td>79%</td></tr><tr><td>2011-12</td><td>71.0</td><td>50%</td></tr></table> <p>Student progress in this online course has been much higher than the on- ground course. Online sections have been taught by a regular adjunct instructor, so there may be differences in the course rigor. Also, a comprehensive final exam is used for assess- ment data in the online</p>	2016-17	86.0	90%	2015-16	79.1	84%	2014-15	79.2	86%	2013-14	83.8	95%	2012-13	75.0	79%	2011-12	71.0	50%	Y
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2011-12	71.0	50%																																							



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)																
						course rather than the standardized pre-post assessment exam. Thus differences in the student scores may also 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</p>	70% of students will score 70% or above.	Given to all enrolled students in Fall & Spring terms.	362	<p>This frequency table summarizes student scores.</p> <table><tr><th colspan="2">Score Distribution</th></tr><tr><td>0-49%</td><td>52</td></tr><tr><td>50-59%</td><td>83</td></tr><tr><td>60-69%</td><td>68</td></tr><tr><td>70-79%</td><td>61</td></tr><tr><td>80-89%</td><td>48</td></tr><tr><td>90-100%</td><td>26</td></tr><tr><td>Average:</td><td>65.0%</td></tr></table>	Score Distribution		0-49%	52	50-59%	83	60-69%	68	70-79%	61	80-89%	48	90-100%	26	Average:	65.0%	<p>The average score was 65%.</p> <p>40% (135 of 338) scored <math>\geq 70\%</math>.</p> <p>Students continue fail to meet our desired goal for this measure.</p> <p>The majority of students taking this course are in pre-nursing, not biology. These student are often not strong in science. Also, many hoping to enter the nursing program are nontraditional students who are often returning to school after a long absence. Many of these students, therefore, find cell biology to be a challenging course.</p> <p>Below are assessment data for the recent cycles.</p> <p>Shown are the average</p>	N
Score Distribution																							
0-49%	52																						
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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)
	discussed in next section.					score on the post-test and the percentage of students that met the standard. 2016-17 65.0 40% 2015-16 66.3 44% 2014-15 69.0 55% 2013-14 63.0 40% s012-13 68.0 48%	
<b>BIOL 1144:</b> General Cell Biology	Comprehensive Pre-Post Exam  50 multiple-choice question exam on basic concepts of biology.  Administered on first day of lecture class and at the time of final exam.  We consider two results: 1) post test scores, and 2) the difference in pre-post test scores  Here, we discuss the change	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.	306	This frequency table summarizes student scores.  <b>Score Distribution</b> (Post Test Improvement) 0-10% 35 10-20% 82 20-30% 75 30-40% 76 40-50% 28 50-60% 7 60-70% 2 <b>Average gain:</b> 24.5	Mean improvement was 25 percentage points.  61% (271 of 306) of students improved their score by $\geq 20\%$ .  This falls short of our desired standard of 70%.  We have seen a drop in student performance since 2014, when student last met this measure.  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 (61% vs 40%).  This finding is consistent with past results in that many students do not	N

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>meet the desired standard on the post-test score, but do perform reasonably well on improving on their pre-test score.</p> <p>This indicates a student population that has a poor aptitude for science entering into college and require more than a single course to get them to college level material.</p> <p>Below are assessment data for the recent cycles.</p> <p>They show the average improvement over the pretest score and the percentage of students that met the standard.</p> <table><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><tr><td>2013-14</td><td>25.0</td><td>59%</td></tr><tr><td>2012-13</td><td>29.0</td><td>75%</td></tr><tr><td>2011-12</td><td>27.0</td><td>68%</td></tr></table>	2016-17	24.5	61%	2015-16	26.5	67%	2014-15	29.0	75%	2013-14	25.0	59%	2012-13	29.0	75%	2011-12	27.0	68%	
2016-17	24.5	61%																							
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2011-12	27.0	68%																							
BIOL 1134: General Environmental Biology	Comprehensive Final Exam  Multiple-choice comprehensive	70% of students will score 70% or higher.	Given to all enrolled students in the Fall & Spring terms	28	This frequency table summarizes student scores.	The average test score was 80%.  82 % (23 of 28) scored ≥70%.	Y																		

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)														
	exam of the concepts covered during the semester.				<div><div>Score Distribution</div><table><tr><td>0-49%</td><td>0</td></tr><tr><td>50-59%</td><td>2</td></tr><tr><td>60-69%</td><td>3</td></tr><tr><td>70-79%</td><td>9</td></tr><tr><td>80-89%</td><td>10</td></tr><tr><td>90-100%</td><td>4</td></tr><tr><td>Average:</td><td>80%</td></tr></table></div>	0-49%	0	50-59%	2	60-69%	3	70-79%	9	80-89%	10	90-100%	4	Average:	80%	<p>Students have met the standard for this measure for the last four years.</p> <p>This is also the second year in a row that the class mean reached 80%.</p> <p>Notably, this was the largest number of students enrolled in this course since 2009.</p> <p>82% of the students scored a 70% or higher on the exam. This is the best performance seen since 2009.</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> <p>Shown are the average test score and the percentage of students that met the standard.</p>	
0-49%	0																				
50-59%	2																				
60-69%	3																				
70-79%	9																				
80-89%	10																				
90-100%	4																				
Average:	80%																				

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)
						2016-17 80.0 82% 2015-16 80.7 70% 2014-15 77.2 70% 2013-14: 76.1 78% 2012-13: 74.5 69% 2011-12: 69.0 39%	
<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	Course cancelled due to insufficient enrollment.	None	None	N/A

**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.	28	This frequency table summarizes student scores.	The average test score was 87%.	Y
Score Distribution							
0-49%	0						
50-59%	0						
60-69%	0						
70-79%	3						
80-89%	13						
90-100%	12						
Average:	87.3%						

**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)
<b>BIOL 3103:</b> Plants and Civilization	Comprehensive Final Exam	70% of students will score 70% or higher.	Given to all enrolled students in the semester.	28	<p>This frequency table summarizes student scores.</p>	<p>The average test score was 88%.</p> <p>100% (28 of 28) of students scored <math>\geq 70\%</math>.</p> <p>These results meet our desired standard.</p>	Y

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)
					<b>Score Distribution</b> 0-49% 0 50-59% 0 60-69% 0 ----- 70-79% 3 80-89% 11 90-100% 14 <b>Average:</b> 88.1%	This evidence shows our students are meeting the goal of developing an understanding of the human experience.	

**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. They should be based on conclusions reported in Part 3 (above) or on informal activities, such as faculty meetings and discussions, conferences, pilot projects, textbook adoption, new course proposals, curriculum modifications, etc. 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.
Acquire, analyze, and evaluate knowledge of human cultures and the physical and natural world.	A new common lab book has been adopted to use in sections of both BIOL 1114 and BIOL 1144.	The lab book previously used in BIOL 1144 was widely considered to be inadequate. The new text is a substantial improvement in rigor and thoroughness. Additionally, as very similar lab topics are explored in both BIOL 1114 and BIOL 1144, it is believed using a common lab book and a common schedule of exercises will aid lab preparation during the week.	A lab component traditionally accounts for 25% or more of an overall course grade in science. It is hoped a more rigorous lab curriculum will improve student learning in the lecture components.

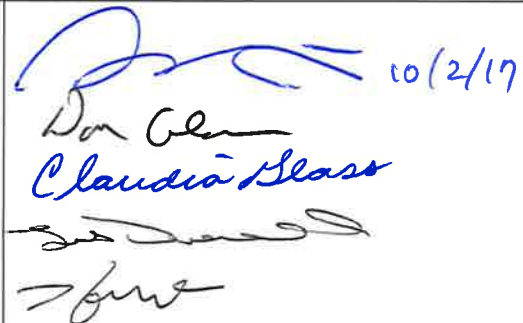
## PART 6 (A & B)

### Documentation of Faculty Participation and Review

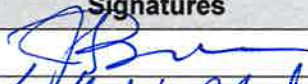
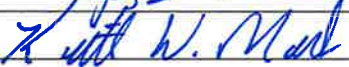
A. Provide the names and signatures of all faculty members who contributed to this report and indicate their respective roles.

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	
Jerry Bowen	Provided data and reviewed report	



Jin Seo	Provided data and reviewed report	
Don Glass	Provided data and reviewed report	
Claudia Glass	Provided data and reviewed report	
Lisa Overall	Provided data and reviewed report	
Jae-Ho Kim	Reviewed report	
<i>Sue Katz</i> Adjunct Faculty	<i>Reviewed report</i>	
Janette Tuckey	Provided data	
Rance Kingfisher	Provided data	
Jan First	Provided data	
Gifty Benson	Provided data	

**B. Reviewed by:**

Titles	Names	Signatures	Date
Department Head	<i>Jerry Bowen</i>		<i>0208 2017</i>
Dean			<i>10/3/17</i>