



Assessment Record

Program: Biology (BIO 101)

Assessment period: Fall 2017 – Summer 2018

Program or Department Mission:

Program or Department Mission:

The mission of the Biology Department is consistent with the mission of Jefferson State Community College. The department provides biology courses appropriate for students majoring in both science and non-science disciplines. Our teaching aims to help prepare students for their future professions both inside and outside of the scientific field and also to be a more informed member of their community, able to make responsible decisions in biological matters.

Course Student Learning Outcomes & Assessment Plan

Biology 101 Course Level Assessment Rubric:

General Education Objective

The student will demonstrate ability to apply reasoning and logic to assess ideas and situations, support positions, draw conclusions, and solve problems

The student will demonstrate understanding of mathematical concepts and scientific principles, and ability to use computers

Department Level Student Learning Outcomes

1. Students will understand the principles and processes that are fundamental to life.
2. Students will understand the fundamental principles of biology at the elemental, cellular, molecular, and organism levels.
3. Students will receive the appropriate Biological knowledge to support a career within the Scientific, Medical, or Health and Fitness community
4. Students will understand principles of human biology that relate to health and fitness

Course Level Student Learning Outcomes

1. Students will recognize how the scientific method is utilized to explore biological processes.
2. Students will have the ability to recognize biological processes at the molecular, cellular and organismal levels.
3. Students will demonstrate an ability to identify basic anatomical structures and the correlating physiology of human systems.

Intended Outcomes	Means of Assessment	Criteria for Success	Summary & Analysis of Assessment Evidence			Use of Results
1. Students will recognize how the scientific method is utilized to explore biological processes	Student learning outcomes were assessed by using a 15 question standardized multiple choice examination at the end of the semester. A total of five questions (Q-1 – Q-2) were used to assess SLO-1.	70% or > successful 69% or < unsuccessful The percent is based upon the average of correctly answered questions related to SLO 1.	Fall 2017	Jefferson	# students tested = 59 # correct = 123 % correct = 69	The students tested meet the requirements for success for SLO 1. The success rate for SLO 1 74.9%, which is higher than last year, which was 69%. This reflects and effort to reinforce the scientific method throughout the semester in both lecture and lab. Instructors at all campuses implemented case studies and the new laboratory manual. We will continue to implement
				Shelby	# students tested = 21 # correct = 53 % correct = 84	
				Pell City	# students tested = 18 # correct = 45 % correct = 83	
				Clanton	# students tested = 23 # correct = 48 % correct = 70	
			Spring 2018	Jefferson	# students tested = 57 # correct = 125 % correct = 73	
				Shelby	# students tested = 28 # correct = 65 % correct = 77	
				Pell City	# students tested = 6 # correct = 13 % correct = 72	
				Clanton	# students tested = 18 # correct = 37 % correct = 69	
			Summer 2018	Jefferson	# students tested = 39 # correct = 96 % correct = 82	

			<table><tr><td></td><td>Shelby</td><td># students tested = 23 # correct = 62 % correct = 90</td></tr><tr><td></td><td>Pell City</td><td># students tested = 28 # correct = 76 % correct = 90</td></tr><tr><td></td><td>Clanton</td><td># students tested = 0 # correct = % correct =</td></tr></table> <p>Total Students Tested = 330 Total Annual Success Rate: 74.9%</p>		Shelby	# students tested = 23 # correct = 62 % correct = 90		Pell City	# students tested = 28 # correct = 76 % correct = 90		Clanton	# students tested = 0 # correct = % correct =	case studies, and inquiry based laboratory exercises.															
	Shelby	# students tested = 23 # correct = 62 % correct = 90																										
	Pell City	# students tested = 28 # correct = 76 % correct = 90																										
	Clanton	# students tested = 0 # correct = % correct =																										
2. Students will have the ability to recognize biological processes at the molecular, cellular and organismal levels	Student learning outcomes were assessed by using a 15 question standardized multiple choice examination at the end of the semester. A total of five questions (Q6-Q11) were used to assess SLO-2.	70% or > successful 69% or < unsuccessful The percent is based upon the average of correctly answered questions related to SLO 2.	<table><tr><td>Fall 2017</td><td>Jefferson</td><td># students tested = 59 # correct = 251 % correct = 61</td></tr><tr><td></td><td>Shelby</td><td># students tested = 21 # correct = 112 % correct = 76</td></tr><tr><td></td><td>Pell City</td><td># students tested = 18 # correct = 87 % correct = 69</td></tr><tr><td></td><td>Clanton</td><td># students tested = 23 # correct = 105 % correct = 65</td></tr><tr><td>Spring 2018</td><td>Jefferson</td><td># students tested = 57 # correct = 246 % correct = 62</td></tr><tr><td></td><td>Shelby</td><td># students tested = 28 # correct = 143 % correct = 73</td></tr><tr><td></td><td>Pell City</td><td># students tested = 6 # correct = 26 % correct = 62</td></tr><tr><td></td><td>Clanton</td><td># students tested = 18 # correct = 83</td></tr></table>	Fall 2017	Jefferson	# students tested = 59 # correct = 251 % correct = 61		Shelby	# students tested = 21 # correct = 112 % correct = 76		Pell City	# students tested = 18 # correct = 87 % correct = 69		Clanton	# students tested = 23 # correct = 105 % correct = 65	Spring 2018	Jefferson	# students tested = 57 # correct = 246 % correct = 62		Shelby	# students tested = 28 # correct = 143 % correct = 73		Pell City	# students tested = 6 # correct = 26 % correct = 62		Clanton	# students tested = 18 # correct = 83	<p>The students tested do not meet the requirements for success for SLO 2.</p> <p>The success rate for SLO 2 is 66.5%, which is down slightly from last years 68% success.</p> <p>We will continue to implement case studies, and will encourage faculty to utilize EdPuzzles. Faculty will also implement small group reviews of</p>
Fall 2017	Jefferson	# students tested = 59 # correct = 251 % correct = 61																										
	Shelby	# students tested = 21 # correct = 112 % correct = 76																										
	Pell City	# students tested = 18 # correct = 87 % correct = 69																										
	Clanton	# students tested = 23 # correct = 105 % correct = 65																										
Spring 2018	Jefferson	# students tested = 57 # correct = 246 % correct = 62																										
	Shelby	# students tested = 28 # correct = 143 % correct = 73																										
	Pell City	# students tested = 6 # correct = 26 % correct = 62																										
	Clanton	# students tested = 18 # correct = 83																										

					% correct = 66	these complex topics.
			Summer 2018	Jefferson	# students tested = 39 # correct = 167 % correct = 61	
				Shelby	# students tested = 23 # correct = 130 % correct = 81	
				Pell City	# students tested = 28 # correct = 184 % correct = 94	
				Clanton	# students tested = 0 # correct = % correct =	
Total Students Tested = 330 Total Annual Success Rate: 66.5%						
3. Students will demonstrate an ability to identify basic anatomical structures and the correlating physiology of human systems	Student learning outcomes were assessed by using a 15 question standardized multiple choice examination at the end of the semester. A total of four questions (Q12-Q15) were used to assess SLO-3.	70% or > successful 69% or < unsuccessful The percent is based upon the average of correctly answered questions related to SLO 3.	Fall 2017	Jefferson	# students tested = 59 # correct = 138 % correct = 47	The students tested do not meet the requirements for success for SLO 3. The success rate for SLO 3 is 49% which is on par with last years success rate of 50%. We will incorporate online dissections using visible body. We will also make use of models from our
				Shelby	# students tested = 21 # correct = 62 % correct = 59	
				Pell City	# students tested = 18 # correct = 49 % correct = 54	
				Clanton	# students tested = 23 # correct = 72 % correct = 63	
			Spring 2018	Jefferson	# students tested = 57 # correct = 106 % correct = 37	
				Shelby	# students tested = 28 # correct = 64 % correct = 46	
				Pell City	# students tes6ted = # correct = 13	

					% correct = 43	anatomy labs to review human anatomy. We will include a lab on the fetal pig dissection as well.
				Clanton	# students tested = 18 # correct = 49 % correct = 54	
			Summer 2018	Jefferson	# students tested = 39 # correct = 100 % correct = 51	
				Shelby	# students tested = 23 # correct = 61 % correct = 53	
				Pell City	# students tested = 28 # correct = 111 % correct = 79	
				Clanton	# students tested = 0 # correct = % correct =	
			Total Students Tested = 330 Total Annual Success Rate: 49%			
Plan submission date:			Submitted by: Meena Bej			



Assessment Record

Program: Biology (BIO 102)

Assessment period: Fall 2017 – Summer 2018

Program or Department Mission:

The mission of the Biology Department is consistent with the mission of Jefferson State Community College. The department provides biology courses appropriate for students majoring in both science and non-science disciplines. Our teaching aims to help prepare students for their future professions both inside and outside of the scientific field and also to be a more informed member of their community, able to make responsible decisions in biological matters.

Course Student Learning Outcomes & Assessment Plan**Biology 102 Course Level Assessment Rubric:****General Education Objective**

The student will read, understand, and evaluate materials written at a variety of levels and for a variety of purposes.

Department Level Student Learning Outcomes

1. Students will understand the principles and processes that are fundamental to life.
2. Students will understand the fundamental principles of biology at the elemental, cellular, molecular, and organism levels
3. Students will receive the appropriate Biological knowledge to support a career within the Scientific, Medical, or Health and Fitness community
4. Students will understand principles of human biology that relate to health and fitness

Course level student learning outcomes

1. Students will demonstrate knowledge of evolution in both plant and animal life.
2. Students will identify general characteristics, anatomy, and taxonomy of plant and animals.
3. Students will explain the interrelationships between the varied life forms on earth and identify the role of humans within ecological systems.

Intended Outcomes	Means of Assessment	Criteria for Success	Summary & Analysis of Assessment Evidence	Use of Results
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1. Students will demonstrate knowledge of evolution in both plant of animal life.	Student learning outcomes were assessed by using a 25 question standardized multiple choice examination at the end of the semester. A total of 7 questions (Q1-Q7) were used to assess SLO 1.	70% or > successful 69% or < unsuccessful The percent is based upon the average of correctly answered questions related to SLO 1.	Fall 2017	Jefferson	# students tested = 12 # correct = 66 % correct = 79%	<p>The students tested did not meet the requirements for success for SLO 1.</p> <p>The success rate for SLO 1 was 67%. This is slightly below 70% and represents an 11 point decline from the previous year (78%)</p> <p>It is difficult to draw meaningful conclusions from these data as there were 10 sections of BIO 102 during this year with >200 students and we tested fewer than half (4 sections with 68 students). The success rate of the classes surveyed was within three percent of the goal of 70% and is likely within the standard error of the mean.</p> <p>We will continue to monitor the success rate and require that ALL sections be surveyed henceforth.</p>
				Shelby	# students tested = none	
			Spring 2018	Jefferson	# students tested = 11 # correct = 63 % correct = 82%	
				Shelby	# students tested = 22 # correct = 98 % correct = 64%	
				Pell City	# students tested = none	
			Summer 2018	Shelby	# students tested = 23 # correct = 93 % correct = 58%	
				Pell City	# students tested = none	
			Total Students Tested = 68 Total Annual Success Rate: 67%			

2. Students will identify general characteristics, anatomy, and taxonomy of plant and animals.	Student learning outcomes were assessed by using a 25 question standardized multiple choice examination at the end of the semester. A total of 14 questions (Q8-Q20) were used to assess SLO 2.	70% or > successful 69% or < unsuccessful The percent is based upon the average of correctly answered questions related to SLO 2.	Fall 2017	Jefferson	# students tested = 12 # correct = 130 % correct = 77%	<p>The students tested did meet the requirements for success for SLO 2.</p> <p>The success rate for SLO 2 was 71%. This is slightly above the 70% goal and represents a three percent decline from the previous year (74%).</p> <p>It is difficult to draw meaningful conclusions from these data as there were 10 sections of BIO 102 during this year with >200 students and we tested fewer than half (4 sections with 68 students). The success rate of the classes surveyed was within one percent of the goal of 70% and is likely within the standard error of the mean.</p> <p>We will continue to monitor the success rate and require that ALL sections be surveyed henceforth.</p>
				Shelby	# students tested = none	
			Spring 2018	Jefferson	# students tested = 11 # correct = 123 % correct = 80%	
				Shelby	# students tested = 22 # correct = 224 % correct = 73%	
				Pell City	# students tested = none	
			Summer 2018	Shelby	# students tested = 23 # correct = 201 % correct = 62%	
				Pell City	# students tested = none	
			Total Students Tested = 68 Total Annual Success Rate: 71%			
	Student learning outcomes were	70% or > successful	Fall 2017	Jefferson	# students tested = 12 # correct = 36	The students tested did not meet the

3. Students will explain the interrelationships between the varied life forms on earth and identify the role of humans within ecological systems.	assessed by using a 25 question standardized multiple choice examination at the end of the semester. A total of 4 questions (Q21-Q25) were used to assess SLO 3.	69% or < unsuccessful The percent is based upon the average of correctly answered questions related to SLO 3.				requirements for success for SLO 3.
						<p>The success rate for SLO 3 was 68%. This is slightly below the 70% goal and represents a 3 point increase from the previous year (65%).</p> <p>It is difficult to draw meaningful conclusions from these data as there were 10 sections of BIO 102 during this year with >200 students and we tested fewer than half (4 sections with 68 students). The success rate of the classes surveyed was within 2 percent of the goal of 70% and is likely within the standard error of the mean.</p> <p>We will continue to monitor the success rate and require that ALL sections be surveyed henceforth.</p>
				Shelby	# students tested = none	
			Spring 2018	Jefferson	# students tested = 11 # correct = 31 % correct = 70%	
				Shelby	# students tested = 22 # correct = 53 % correct = 60%	
				Pell City	# students tested = none	
			Summer 2018	Shelby	# students tested = 23 # correct = 65 % correct = 71%	
				Pell City	# students tested = none	
			Total Students Tested = 68 Total Annual Success Rate: 68%			
Plan submission date: Plan submission date: 9/28/2018			Submitted by: Charles J. Venglarik			



Assessment Record

Program: **Biology (BIO 103)**

Assessment period: **Fall 2017 – Summer 2018**

Program or Department Mission:

Program or Department Mission:

The mission of the Biology Department is consistent with the mission of Jefferson State Community College. The department provides biology courses appropriate for students majoring in both science and non-science disciplines. Our teaching aims to help prepare students for their future professions both inside and outside of the scientific field and also to be a more informed member of their community, able to make responsible decisions in biological matters.

Course Student Learning Outcomes & Assessment Plan

Biology 103 Course Level Assessment Rubric:

General Education Objective

The student will demonstrate ability to apply reasoning and logic to assess ideas and situations, support positions, draw conclusions, and solve problems

The student will demonstrate understanding of mathematical concepts and scientific principles, and ability to use computers

Department Level Student Learning Outcomes

1. Students will understand the principles and processes that are fundamental to life.
2. Students will understand the fundamental principles of biology at the elemental, cellular, molecular, and organism levels
3. Students will receive the appropriate Biological knowledge to support a career within the Scientific, Medical, or Health and Fitness community
4. Students will understand principles of human biology that relate to health and fitness

Course Level Student Learning Outcomes

1. Students will demonstrate knowledge of the fundamental concepts and processes in biology including the scientific method, evolution, biological macromolecules and biochemistry
2. Students will demonstrate an ability to identify molecular and cellular processes in prokaryotic and eukaryotic cells.
3. The student will demonstrate an ability to recognize genetic, morphological and life cycle characteristics of bacteria, fungi, and viruses.

Intended Outcomes	Means of Assessment	Criteria for Success	Summary & Analysis of Assessment Evidence			Use of Results
1. Students will demonstrate knowledge of the fundamental concepts and processes in biology including the scientific method, evolution, biological macromolecules and biochemistry	Student learning outcomes were assessed by using a 12 question standardized multiple choice examination at the end of the semester. A total of four questions (Q1 – Q4) were used to assess SLO1	70% or > successful 69% or < unsuccessful The percent is based upon the average of correctly answered questions related to SLO1	Fall 2017	Jefferson	# students tested = 39 # correct = 128 % correct = 82%	<p>The students tested met the requirement for success for SLO 1.</p> <p>The success rate for SLO 1 is 81%% which is an improvement from 2016-2017 where success was at 77.6%</p> <p>We will continue to do a review of chemistry as part of the final review as that has helped retention and comprehension.</p>
				Shelby	# students tested = 39 # correct = 119 % correct = 76%	
				Pell City	# students tested = 0 # correct = % correct =	
				Clanton	# students tested = 21 # correct = 72 % correct = 72%	
			Spring 2018	Jefferson	# students tested = 43 # correct =160 % correct = 93%	
				Shelby	# students tested = 45 # correct =128 % correct = 71%	
				Pell City	# students tested = 13 # correct =36 % correct = 69%	
				Clanton	# students tested = 15 # correct =53 % correct = 88%	
			Summer 2018	Jefferson	# students tested = 23 # correct =89	

					% correct = 97%	
				Shelby	# students tested = 23 # correct = 61 % correct = 66%	
				Pell City	# students tested = 0 # correct = % correct =	
				Clanton	# students tested = 0 # correct = % correct =	
			Total Students Tested = 261 Total Annual Success Rate: 81%			
2: Students will demonstrate an ability to identify molecular and cellular processes in prokaryotic and eukaryotic cells.	Student learning outcomes were assessed by using a 12 question standardized multiple choice examination at the end of the semester. A total of seven questions (Q5 – Q11) were used to assess SLO2	70% or > successful 69% or < unsuccessful The percent is based upon the average of correctly answered questions related to SLO2	Fall 2017	Jefferson	# students tested = 39 # correct = 167 % correct = 61%	<p>The students tested did not meet the requirements for success for SLO 2.</p> <p>The success rate for SLO 2 was 58% which about the same as the 2016-2017 success rate which was 60%. These are dense topics to cover and have decided to try engaging</p>
				Shelby	# students tested = 39 # correct = 115 % correct = 42%	
				Pell City	# students tested = 0 # correct = % correct =	
				Clanton	# students tested = 21 # correct = 79 % correct = 54%	
			Spring 2018	Jefferson	# students tested = 43 # correct = 265 % correct = 90%	
				Shelby	# students tested = 45 # correct = 164 % correct = 90%	
				Pell City	# students tested = 13 # correct = 37 % correct = 82%	

				Clanton	# students tested = 15 # correct =53 % correct = 53%	<p>students with more hands on demonstrations of these topics.</p> <p>We will now focus on implementing new laboratory activities made possible by equipment purchased through a grant. The students can perform DNA fingerprinting as well as experiments using fermentation tubes to visualize the concepts covered in SLO 2.</p>
			Summer 2018	Jefferson	# students tested = 23 # correct =138 % correct = 84%	
				Shelby	# students tested = 23 # correct = 78 % correct = 48%	
				Pell City	# students tested = 0 # correct = % correct =	
				Clanton	# students tested = 0 # correct = % correct =	
			Total Students Tested = 261 Total Annual Success Rate: 58%			

3: The student will demonstrate an ability to recognize genetic, morphological and life cycle characteristics of bacteria, fungi, and viruses.	Student learning outcomes were assessed by using a 12 question standardized multiple choice examination at the end of the semester. A total of three questions (Q12 – Q14) was used to assess SLO3	70% or > successful 69% or < unsuccessful The percent is based upon the average of correctly answered question related to SLO3	Fall 2017	Jefferson	# students tested = 39 # correct = 80 % correct = 68%	<p>The students tested did not meet the requirements for success for SLO 3.</p> <p>The success rate for SLO 3 is 63%. This is an improvement from 2016-2017 when we only achieved 57% success. Instructors worked hard to ensure this material was fully covered despite being at the end of the semester.</p> <p>We will work to incorporate bacteria, fungi, and viruses into earlier content as relevant. We will also grow fungus in the lab and turn the bacteria lab into a forensic lab activity.</p>
				Shelby	# students tested =39 # correct = 59 % correct = 50%	
				Pell City	# students tested = 0 # correct = % correct =	
				Clanton	# students tested = 21 # correct =40 % correct = 63%	
			Spring 2018	Jefferson	# students tested = 43 # correct =116 % correct = 90%	
				Shelby	# students tested = 45 # correct =54 % correct = 40%	
				Pell City	# students tested = 13 # correct =32 % correct = 82%	
				Clanton	# students tested = 15 # correct =24 % correct = 53%	
			Summer 2018	Jefferson	# students tested = 23 # correct =58 % correct = 84%	
				Shelby	# students tested =23 # correct = 29 % correct = 42%	
				Pell City	# students tested =0 # correct = % correct =	
				Clanton	# students tested = 0 # correct = % correct =	

			Total Students Tested = 261 Total Annual Success Rate: 63%	
Plan submission date:			Submitted by:	



Assessment Record

Program: Biology (BIO 104)

Assessment period: Fall 2017 –Summer 2018

Program or Department Mission:

The mission of the Biology Department is consistent with the mission of Jefferson State Community College. The department provides biology courses appropriate for students majoring in both science and non-science disciplines. Our teaching aims to help prepare students for their future professions both inside and outside of the scientific field and also to be a more informed member of their community, able to make responsible decisions in biological matters.

Course Student Learning Outcomes & Assessment Plan

Biology 104 Course Level Assessment Rubric:

General Education Objective

The student will demonstrate ability to apply reasoning and logic to assess ideas and situations, support positions, draw conclusions, and solve problems

The student will demonstrate understanding of mathematical concepts and scientific principles, and ability to use computers

Department Level Student Learning Outcomes

1. Students will understand the principles and processes that are fundamental to life.
2. Students will understand the fundamental principles of biology at the elemental, cellular, molecular, and organism level
3. Students will receive the appropriate Biological knowledge to support a career within the Scientific, Medical, or Health and Fitness community
4. Students will understand principles of human biology that relate to health and fitness

Course Level Student Learning Outcomes

1. The student will recognize the fundamental principles and supporting evidence necessary to explain Darwinian evolution.
2. The student will demonstrate an ability to identify the structural characteristics and life cycles of both plant and animal phyla.
3. The student can recognize components of community ecology and identify how biodiversity contributes to a stable ecosystem.

Intended Outcomes	Means of Assessment	Criteria for Success	Summary & Analysis of Assessment Evidence	Use of Results
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1. The student will recognize the fundamental principles and supporting evidence necessary to explain Darwinian evolution.	Student learning outcomes were assessed using a 20 question multiple-choice assessment at the end of each semester. A total of 9 questions (Q1-Q6 and Q18-20) were used to assess understanding of SLO1	70% or > successful 69% or < unsuccessful The percent is based upon the average of correctly answered questions (1 to 6, 18-20) related to SLO 1. (9 questions)	Fall 2017	Jefferson	# students tested = 18 # correct = 109 % correct = 67%	The students tested did not meet the requirements for success for SLO 1. The success rate for SLO 1 was 64%. This represents a slight increase from last year (2016-2017). We will incorporate current research of the study of human genetics to increase interest in the topic. Since this is taught in both the beginning and end of term, we should be able to see stronger learning indication with more planning and reviews.
			Spring 2018	Jefferson	# students tested = 19 # correct =101 % correct = 59%	
			Spring 2018	Shelby	# students tested = 30 # correct =142 % correct = 53%	
			Summer 2018	Jefferson	# students tested = 7 # correct =35 % correct = 56%	
			Summer 2018	Shelby	# students tested = 22 # correct =129 % correct = 65%	
			Total Students Tested = 96 Total Annual Success Rate = 64%			
2. The student will demonstrate an ability to identify the structural characteristics and life cycles of both plant and animal phyla.	Student learning outcomes were assessed using a 20 question multiple-choice assessment at the end of each semester. A total of 6 questions (Q7-Q12) were used to assess mastery of SLO2	70% or > successful 69% or < unsuccessful The percent is based upon the average of correctly answered questions (7 to 12 and 18 to 20) related to SLO 2. (9 total)	Fall 2017	Jefferson	# students tested = 18 # correct =91 % correct = 80%	The students tested met the requirements for success for SLO 2. The success rate for SLO 2 is 70%. This is a 6% increase when compared with the last years data (2016-2017) which reported a 71% success rate. Instructors put emphasis on structures in both lecture and lab and will continue to do so.
			Spring 2018	Jefferson	# students tested = 19 # correct =91 % correct = 80%	
			Spring 2018	Shelby	# students tested = 30 # correct =105 % correct = 58%	
			Summer 2018	Jefferson	# students tested =7 # correct =31 % correct = 74%	
			Summer 2018	Shelby	# students tested = 22 # correct =82 % correct =62%	

			Total Students Tested = 96 Total Annual Success Rate = 77%			We will continue to emphasize the diversity of Kindgom Animalia and Plantae. Hands on labs with dissections and discussions should contribute to student learning and retention.
3. The student can recognize components of population and community ecology and identify how biodiversity contributes to a stable ecosystem.	Student learning outcomes were assessed using a 20 question multiple-choice assessment at the end of each semester. A total of 5 questions (Q13-Q17) were used to assess mastery of SLO3	70% or > successful 69% or < unsuccessful The percent is based upon the average of correctly answered questions (13 to 17) related to SLO 3. (5 total)	Fall 2017	Jefferson	# students tested = 18 # correct =43 % correct = 48%	The students tested did not meet the requirements for success for SLO 3. The success rate for SLO 3 is 53%, which represents a decrease of 9% from 2016-2017. This material is typically taught right before the final and more time needs to be spent on it. We will start introducing topics in ecololgy and biodiversity in the study of both plants and animals to increase their cognitive base before these topics are studied as a unit at the end of the semester. We will bring in current information concerning changes in our environment such as coral bleaching and population
			Spring 2018	Jefferson	# students tested = 19 # correct =65 % correct = 68	
			Spring 2018	Shelby	# students tested =30 # correct =77 % correct = 51%	
			Summer 2018	Jefferson	# students tested = 7 # correct =21 % correct = 60%	
			Summer 2018	Shelby	# students tested = 22 # correct =46 % correct = 42%	
			Total Students Tested = 96 Total Annual Success Rate = 53%			

				<p>fluctuations to make the information more relevant.</p> <p>Since this is a class that is very important for a foundation in biological sciences, both for majors and pre-professionals, it is important that we strengthen the core of this course. As discussed in our last department meeting, we plan to work more closely with adjuncts teaching this class to share positive ideas for improvement and topic delivery. We have excellent resources for hands on labs, but augmenting these with some Tegrity videos could increase learning. We currently have about two thirds of the lectures on videos that are available to our Jefferson campus students. We will discuss if these can be improved on to increase comprehension of some of the more difficult topics that show weakness in our SLO results.</p>
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Plan submission date: September 25, 2018			Submitted by: Martha J. Ross, Dept. of Biology Instructor	



Assessment Record

Program: Biology (BIO 201)

Assessment period: Fall 2017 – Summer 2018

Program or Department Mission:

Program or Department Mission:

The mission of the Biology Department is consistent with the mission of Jefferson State Community College. The department provides biology courses appropriate for students majoring in both science and non-science disciplines. Our teaching aims to help prepare students for their future professions both inside and outside of the scientific field and also to be a more informed member of their community, able to make responsible decisions in biological matters

Course Student Learning Outcomes & Assessment Plan

Biology 201 Course Level Assessment Rubric:

General Education Objective

The student will demonstrate ability to apply reasoning and logic to assess ideas and situations, support positions, draw conclusions, and solve problems

The student will demonstrate understanding of mathematical concepts and scientific principles, and ability to use computers

Department Level Student Learning Outcomes

1. Students will understand the principles and processes that are fundamental to life.

2. Students will understand the fundamental principles of biology at the elemental, cellular, molecular, and organism levels.
3. Students will receive the appropriate Biological knowledge to support a career within the Scientific, Medical, or Health and Fitness community
4. Students will understand principles of human biology that relate to health and fitness

Course Level Student Learning Outcomes Assessed

1. Students will be able to identify the terminology used in anatomy and physiology
2. Students will be able to identify and recognize the distinct characteristics of the systems listed below
 - A. Integumentary System
 - B. Skeletal System
 - C. Muscular System
 - D. Nervous System
3. Students will recognize the relationship between structural organization and function
4. Student will define homeostasis and identify the role of homeostasis within and between appropriate systems
5. Students will identify the major structures of each system
 - A. Integumentary System
 - B. Skeletal System
 - C. Muscular System
 - D. Nervous System

Intended Outcomes	Means of Assessment	Criteria for Success	Summary & Analysis of Assessment Evidence			Use of Results
SLO 1: Students will be able to identify the terminology used in anatomy and physiology	Student learning outcomes were assessed by using a 16 question standardized multiple choice examination at	Correct responses by 70% of the students for each SLO will be defined as a successful outcome.	Fall 2017	Jefferson	# students tested = 62 # correct = 88 % correct = 71	The students tested did meet the requirements for success for SLO 1. The success rate for SLO 1 is 82.5%
				Shelby	# students tested = 139 # correct = 232 % correct = 83	
				Clanton	# students tested = 95	

	the end of the semester. A total of 2 questions (Q2 and Q3) were used to assess SLO1		<table><tr><td></td><td></td><td># correct =164 % correct = 86</td></tr><tr><td></td><td>Pell City</td><td># students tested = 77 # correct = 111 % correct = 72</td></tr><tr><td>Spring 2018</td><td>Jefferson</td><td># students tested = 93 # correct =148 % correct = 80</td></tr><tr><td></td><td>Shelby</td><td># students tested = 130 # correct = 217 % correct = 83</td></tr><tr><td></td><td>Clanton</td><td># students tested = 40 # correct = 62 % correct = 78</td></tr><tr><td></td><td>Pell City</td><td># students tested = 27 # correct = 46 % correct = 85</td></tr><tr><td>Summer 2018</td><td>Jefferson</td><td># students tested = 67 # correct = 116 % correct = 87</td></tr><tr><td></td><td>Shelby</td><td># students tested = 81 # correct = 150 % correct = 93</td></tr><tr><td></td><td>Clanton</td><td># students tested = 21 # correct = 38 % correct = 90</td></tr><tr><td></td><td>Pell City</td><td># students tested = 0 # correct = % correct =</td></tr></table> Total Students Tested = 832 Total Annual Success Rate = 82.5%					# correct =164 % correct = 86		Pell City	# students tested = 77 # correct = 111 % correct = 72	Spring 2018	Jefferson	# students tested = 93 # correct =148 % correct = 80		Shelby	# students tested = 130 # correct = 217 % correct = 83		Clanton	# students tested = 40 # correct = 62 % correct = 78		Pell City	# students tested = 27 # correct = 46 % correct = 85	Summer 2018	Jefferson	# students tested = 67 # correct = 116 % correct = 87		Shelby	# students tested = 81 # correct = 150 % correct = 93		Clanton	# students tested = 21 # correct = 38 % correct = 90		Pell City	# students tested = 0 # correct = % correct =	across all campuses, which is a 3.3% increase from 2016-17. We will continue to use vocabulary terms throughout each chapter to reinforce the regional and directional terms throughout the course. Faculty will continue to connect the relationship between structure and function.
		# correct =164 % correct = 86																																		
	Pell City	# students tested = 77 # correct = 111 % correct = 72																																		
Spring 2018	Jefferson	# students tested = 93 # correct =148 % correct = 80																																		
	Shelby	# students tested = 130 # correct = 217 % correct = 83																																		
	Clanton	# students tested = 40 # correct = 62 % correct = 78																																		
	Pell City	# students tested = 27 # correct = 46 % correct = 85																																		
Summer 2018	Jefferson	# students tested = 67 # correct = 116 % correct = 87																																		
	Shelby	# students tested = 81 # correct = 150 % correct = 93																																		
	Clanton	# students tested = 21 # correct = 38 % correct = 90																																		
	Pell City	# students tested = 0 # correct = % correct =																																		
SLO 2: Students will be able to identify and recognize the distinct characteristics	Student learning outcomes were assessed by using a 16 question	Correct responses by 70% of the students for each SLO will	<table><tr><td>Fall 2017</td><td>Jefferson</td><td># students tested = 62 # correct = 150 % correct = 60</td></tr><tr><td></td><td>Shelby</td><td># students tested = 139 # correct = 433</td></tr></table>			Fall 2017	Jefferson	# students tested = 62 # correct = 150 % correct = 60		Shelby	# students tested = 139 # correct = 433	The students tested did meet the requirements for success for SLO 2.																								
Fall 2017	Jefferson	# students tested = 62 # correct = 150 % correct = 60																																		
	Shelby	# students tested = 139 # correct = 433																																		

of the systems listed below A. Integumentary System B. Skeletal System C. Muscular System D. Nervous System	standardized multiple choice examination at the end of the semester. A total of 7 questions (Q5, Q8, Q11, and Q14) were used to assess SLO2	be defied as a successful outcome.			% correct = 78	The success rate for SLO 2 is 77.1% across all campuses, which is 3% increase from 2016-2017. We will continue to stress the details of each organ system in both lecture and lab throughout the semester.
				Clanton	# students tested = 95 # correct = 286 % correct = 75	
				Pell City	# students tested = 77 # correct = 179 % correct = 58	
			Spring 2018	Jefferson	# students tested = 93 # correct = 312 % correct = 84	
				Shelby	# students tested = 130 # correct = 410 % correct = 79	
				Clanton	# students tested = 40 # correct = 127 % correct = 79	
				Pell City	# students tested = 27 # correct = 77 % correct = 71	
			Summer 2018	Jefferson	# students tested = 67 # correct = 226 % correct = 84	
				Shelby	# students tested = 81 # correct = 292 % correct = 90	
				Clanton	# students tested = 21 # correct = 73 % correct = 87	
				Pell City	# students tested = 0 # correct = % correct =	
			Total Students Tested = 832 Total Annual Success Rate = 77.1%			

SLO 3: Students will recognize the relationship between structural organization and function	Student learning outcomes were assessed by using a 16 question standardized multiple choice examination at the end of the semester. A total of 4 question (Q1, Q7, Q9, Q13) was used to assess SLO3	Correct responses by 70% of the students for each SLO will be defied as a successful outcome.	Fall 2017	Jefferson	# students tested = 62 # correct = 113 % correct = 46	The students tested did not meet the requirements for success for SLO 3. The success rate for SLO 3 is 56.5% across all campuses, reflecting no change from 2016-17. We will continue to stress the relationship of structure and function in both lecture and lab for all organ systems covered. We will also supplement lecture content with activities and/or videos that emphasizes the relationship between structure and function.
				Shelby	# students tested = 139 # correct = 307 % correct = 55	
				Clanton	# students tested = 95 # correct = 200 % correct = 53	
				Pell City	# students tested = 77 # correct = 145 % correct = 47	
			Spring 2018	Jefferson	# students tested = 93 # correct = 218 % correct = 59	
				Shelby	# students tested = 130 # correct =292 % correct = 56	
				Clanton	# students tested = 40 # correct = 97 % correct = 61	
				Pell City	# students tested = 27 # correct = 65 % correct = 60	
			Summer 2018	Jefferson	# students tested = 67 # correct = 176 % correct = 66	
				Shelby	# students tested = 81 # correct = 216 % correct = 67	
				Clanton	# students tested = 21 # correct = 52 % correct = 62	
				Pell City	# students tested =0 # correct = % correct =	

			Total Students Tested = 832 Total Annual Success Rate = 56.5%			
SLO 4: Student will define homeostasis and identify the role of homeostasis within and between appropriate systems	Student learning outcomes were assessed by using a 16 question standardized multiple choice examination at the end of the semester. A total of 2 questions (Q15 and Q16) were used to assess SLO4	Correct responses by 70% of the students for each SLO will be defied as a successful outcome.	Fall 2017	Jefferson	# students tested = 62 # correct = 92 % correct = 74	<p>The students tested did meet the requirements for success for SLO 4.</p> <p>The success rate for SLO 4 is 87% across all campuses, which is comparable to the 2016-17 success rate.</p> <p>We will continue to stress the importance of homeostasis in each organ system.</p>
				Shelby	# students tested = 139 # correct = 249 % correct = 90	
				Clanton	# students tested = 95 # correct = 162 % correct = 85	
				Pell City	# students tested = 77 # correct = 104 % correct = 68	
			Spring 2018	Jefferson	# students tested = 93 # correct = 178 % correct = 96	
				Shelby	# students tested = 130 # correct = 223 % correct = 86	
				Clanton	# students tested = 40 # correct = 72 % correct = 90	
				Pell City	# students tested = 27 # correct = 49 % correct = 91	
			Summer 2018	Jefferson	# students tested = 67 # correct = 125 % correct = 93	
				Shelby	# students tested = 81 # correct = 155 % correct = 96	
				Clanton	# students tested = 21 # correct = 39 % correct = 93	
				Pell City	# students tested = 0	

					# correct = % correct =		
			Total Students Tested = 832 Total Annual Success Rate = 87%				
<p>SLO 5: Students will identify the major structures of each system</p> <p>A.Integumentary System</p> <p>B.Skeletal System</p> <p>C.Muscular System</p> <p>D.Nervous System</p>	<p>Student learning outcomes were assessed by using a 16 question standardized multiple choice examination at the end of the semester. A total of 4 questions (Q4, Q6, and Q10, Q12) were used to assess SLO5</p>	<p>Correct responses by 70% of the students for each SLO will be defied as a successful outcome.</p>	Fall 2017	Jefferson	# students tested = 62 # correct = 162 % correct = 65		<p>The students tested did meet the requirements for success for SLO 5.</p> <p>The success rate for SLO 5 is 77.9% across all campuses, reflecting a 1.1% increase from 2016-17.</p> <p>We will continue to teach the major structures of each organ system and focus on the relationship between structure and function.</p>
				Shelby	# students tested = 139 # correct = 439 % correct = 79		
				Clanton	# students tested = 95 # correct = 274 % correct = 72		
				Pell City	# students tested = 77 # correct = 223 % correct = 72		
			Spring 2018	Jefferson	# students tested = 93 # correct = 310 % correct = 83		
				Shelby	# students tested = 130 # correct = 430 % correct = 83		
				Clanton	# students tested = 40 # correct = 111 % correct = 69		
				Pell City	# students tested = 27 # correct = 90 % correct = 83		
			Summer 2018	Jefferson	# students tested = 67 # correct = 229 % correct = 85		
				Shelby	# students tested = 81 # correct = 256 % correct = 79		
				Clanton	# students tested = 21		

			<table><tr><td></td><td></td><td># correct = 67 % correct = 80</td></tr><tr><td></td><td>Pell City</td><td># students tested =0 # correct = % correct =</td></tr></table> <p>Total Students Tested = 832 Total Annual Success Rate = 77.9%</p>			# correct = 67 % correct = 80		Pell City	# students tested =0 # correct = % correct =	
		# correct = 67 % correct = 80								
	Pell City	# students tested =0 # correct = % correct =								
Plan submission date:			Submitted by: Julie Maharrey and Tom Baker							



Assessment Record

Program: Biology (BIO 202)

Assessment period: Fall 2017- Summer 2018

Program or Department Mission:

Program or Department Mission:

The mission of the Biology Department is consistent with the mission of Jefferson State Community College. The department provides biology courses appropriate for students majoring in both science and non-science disciplines. Our teaching aims to help prepare students for their future professions both inside and outside of the scientific field and also to be a more informed member of their community, able to make responsible decisions in biological matters.

Course Student Learning Outcomes & Assessment Plan

Biology 202 Course Level Assessment Rubric:

General Education Objective

The student will demonstrate ability to apply reasoning and logic to assess ideas and situations, support positions, draw conclusions, and solve problems

The student will demonstrate understanding of mathematical concepts and scientific principles, and ability to use computers

Department Level Student Learning Outcomes

1. Students will understand the principles and processes that are fundamental to life.
2. Students will understand the fundamental principles of biology at the elemental, cellular, molecular, and organism levels.
3. Students will receive the appropriate Biological knowledge to support a career within the Scientific, Medical, or Health and Fitness community
4. Students will understand principles of human biology that relate to health and fitness

Course Level Student Learning Outcomes Assessed

1. Students will define and describe the systems listed below.
 - A. Endocrine System
 - B. Cardiovascular System
 - C. Lymphatic and Immune System
 - D. Respiratory System
 - E. Digestive System
 - F. Urinary System
 - G. Reproductive System
2. Students will define homeostasis and identify the role of homeostasis within and between appropriate systems.
3. Students will be able to recognize the major structures of each system listed below.
 - A. Endocrine System
 - B. Cardiovascular System
 - C. Lymphatic and Immune System
 - D. Respiratory System
 - E. Digestive System
 - F. Urinary System
 - G. Reproductive System

Intended Outcomes	Means of Assessment	Criteria for Success	Summary & Analysis of Assessment Evidence			Use of Results
<p>1: Students will define and describe the systems listed below.</p> <ul style="list-style-type: none"> A. Endocrine System B. Cardiovascular System C. Lymphatic and Immune System D. Respiratory System E. Digestive System F. Urinary System G. Reproductive System 	<p>Student learning outcomes were assessed by using a 12 question standardized multiple choice examination at the end of the semester. A total of five questions (Q2, Q4, Q7, Q8, Q12) were used to assess SLO1.</p>	<p>70% or > successful 69% or < unsuccessful The percent is based upon the average of correctly answered questions related to SLO 1.</p>	Fall 2016	Jefferson	# students tested = 61 #correct = 232 % correct = 76%	<p>The students tested did meet the requirements for success for SLO 1.</p> <p>The success rate for SLO 1 is 72% This success rate was slightly higher than the previous year (2016-17) of 70%. We did edit questions on the test for clarity so this may be the reason for the increase. We also teach the organs systems in both lecture and lab to provide hands on learning and repetition of the material.</p> <p>We will continue to teach the importance of</p>
				Shelby	# students tested = 49 #correct = 164 % correct = 67%	
				Clanton	# students tested = 15 #correct = 55 % correct = 73%	
				Pell City	# students tested = 0 #correct = 0 % correct = 0	
			Spring 2017	Jefferson	# students tested = 73 #correct = 344 % correct = 74%	
				Shelby	# students tested = 132 #correct = 482 % correct = 73%	
				Clanton	# students tested = 68 #correct = 238 % correct = 70%	
				Pell City	# students tested = 46 #correct = 163 % correct = 71%	
			Summer 2017	Jefferson	# students tested = 36 #correct = 133 % correct = 74%	
				Shelby	# students tested = 37 #correct = 129 % correct = 70%	
				Clanton	# students tested = 0 #correct = 0	

			<table><tr><td></td><td></td><td>% correct = 0</td></tr><tr><td></td><td>Pell City</td><td># students tested = 19 #correct = 70 % correct = 74%</td></tr></table>			% correct = 0		Pell City	# students tested = 19 #correct = 70 % correct = 74%	each organ system in SLO 1.																								
		% correct = 0																																
	Pell City	# students tested = 19 #correct = 70 % correct = 74%																																
Total Students Tested = 556 Total Annual Success Rate = 72%																																		
2: Students will define homeostasis and identify the role of homeostasis within and between appropriate systems.	Student learning outcomes were assessed by using a 12 question standardized multiple choice examination at the end of the semester. A total of 2 questions (Q1 and Q6) were used to assess SLO2.	70% or > successful 69% or < unsuccessful The percent is based upon the average of correctly answered questions related to SLO2.	<table><tr><td>Fall 2016</td><td>Jefferson</td><td># students tested = 61 #correct = 110 % correct = 90%</td></tr><tr><td></td><td>Shelby</td><td># students tested = 49 #correct = 76 % correct = 78%</td></tr><tr><td></td><td>Clanton</td><td># students tested = 15 #correct = 22 % correct = 73%</td></tr><tr><td></td><td>Pell City</td><td># students tested = 0 #correct = 0 % correct = 0</td></tr><tr><td>Spring 2017</td><td>Jefferson</td><td># students tested = 93 #correct = 161 % correct = 87%</td></tr><tr><td></td><td>Shelby</td><td># students tested = 132 #correct = 219 % correct = 83%</td></tr><tr><td></td><td>Clanton</td><td># students tested = 68 #correct = 75 % correct = 70%</td></tr><tr><td></td><td>Pell City</td><td># students tested = 46 #correct = 67 % correct = 73%</td></tr><tr><td>Summer 2017</td><td>Jefferson</td><td># students tested = 36 #correct = 62 % correct = 86%</td></tr><tr><td></td><td>Shelby</td><td># students tested = 37</td></tr></table>	Fall 2016	Jefferson	# students tested = 61 #correct = 110 % correct = 90%		Shelby	# students tested = 49 #correct = 76 % correct = 78%		Clanton	# students tested = 15 #correct = 22 % correct = 73%		Pell City	# students tested = 0 #correct = 0 % correct = 0	Spring 2017	Jefferson	# students tested = 93 #correct = 161 % correct = 87%		Shelby	# students tested = 132 #correct = 219 % correct = 83%		Clanton	# students tested = 68 #correct = 75 % correct = 70%		Pell City	# students tested = 46 #correct = 67 % correct = 73%	Summer 2017	Jefferson	# students tested = 36 #correct = 62 % correct = 86%		Shelby	# students tested = 37	<p>The students tested did meet the requirements for success for SLO 2.</p> <p>The success rate for SLO 2 is 81%. This is a significant increase from the previous year (2016-17) of 73%. Homeostasis is stressed within each chapter.</p> <p>We will continue to teach the importance of homeostasis in each chapter and each organ system.</p>
Fall 2016	Jefferson	# students tested = 61 #correct = 110 % correct = 90%																																
	Shelby	# students tested = 49 #correct = 76 % correct = 78%																																
	Clanton	# students tested = 15 #correct = 22 % correct = 73%																																
	Pell City	# students tested = 0 #correct = 0 % correct = 0																																
Spring 2017	Jefferson	# students tested = 93 #correct = 161 % correct = 87%																																
	Shelby	# students tested = 132 #correct = 219 % correct = 83%																																
	Clanton	# students tested = 68 #correct = 75 % correct = 70%																																
	Pell City	# students tested = 46 #correct = 67 % correct = 73%																																
Summer 2017	Jefferson	# students tested = 36 #correct = 62 % correct = 86%																																
	Shelby	# students tested = 37																																

			<table><tr><td></td><td></td><td>#correct = 68 % correct = 92%</td></tr><tr><td></td><td>Clanton</td><td># students tested = 0 #correct = 0 % correct = 0</td></tr><tr><td></td><td>Pell City</td><td># students tested = 19 #correct = 29 % correct = 76%</td></tr></table> <p>Total Students Tested = 556 Total Annual Success Rate = 81%</p>			#correct = 68 % correct = 92%		Clanton	# students tested = 0 #correct = 0 % correct = 0		Pell City	# students tested = 19 #correct = 29 % correct = 76%																
		#correct = 68 % correct = 92%																										
	Clanton	# students tested = 0 #correct = 0 % correct = 0																										
	Pell City	# students tested = 19 #correct = 29 % correct = 76%																										
3: Students will be able to recognize the major structures of each system listed below. A. Endocrine System B. Cardiovascular System C. Lymphatic and Immune System D. Respiratory System E. Digestive System F. Urinary System G. Reproductive System	Student learning outcomes were assessed by using a 12 question standardized multiple choice examination at the end of the semester. A total of 5 questions (Q3, Q5 and Q9-Q11) were used to assess SLO3.	70% or > successful 69% or < unsuccessful The percent is based upon the average of correctly answered questions related to SLO3.	<table><tr><td>Fall 2016</td><td>Jefferson</td><td># students tested = 61 #correct = 280 % correct = 92%</td></tr><tr><td></td><td>Shelby</td><td># students tested = 49 #correct = 192 % correct = 78%</td></tr><tr><td></td><td>Clanton</td><td># students tested = 15 #correct = 72 % correct = 96%</td></tr><tr><td></td><td>Pell City</td><td># students tested = 0 #correct = 0 % correct = 0</td></tr><tr><td>Spring 2017</td><td>Jefferson</td><td># students tested = 93 #correct = 401 % correct = 86%</td></tr><tr><td></td><td>Shelby</td><td># students tested = 132 #correct = 519 % correct = 79%</td></tr><tr><td></td><td>Clanton</td><td># students tested = 68 #correct = 230 % correct = 68%</td></tr><tr><td></td><td>Pell City</td><td># students tested = 46 #correct = 177 % correct = 77%</td></tr></table>	Fall 2016	Jefferson	# students tested = 61 #correct = 280 % correct = 92%		Shelby	# students tested = 49 #correct = 192 % correct = 78%		Clanton	# students tested = 15 #correct = 72 % correct = 96%		Pell City	# students tested = 0 #correct = 0 % correct = 0	Spring 2017	Jefferson	# students tested = 93 #correct = 401 % correct = 86%		Shelby	# students tested = 132 #correct = 519 % correct = 79%		Clanton	# students tested = 68 #correct = 230 % correct = 68%		Pell City	# students tested = 46 #correct = 177 % correct = 77%	The students tested did meet the requirements for success for SLO 3. The success rate for SLO 3 is 82%. We revised some questions on the assessment to be identification with pictures. This may be why there is a significant increase in the overall percent success. We will continue to teach organ system
Fall 2016	Jefferson	# students tested = 61 #correct = 280 % correct = 92%																										
	Shelby	# students tested = 49 #correct = 192 % correct = 78%																										
	Clanton	# students tested = 15 #correct = 72 % correct = 96%																										
	Pell City	# students tested = 0 #correct = 0 % correct = 0																										
Spring 2017	Jefferson	# students tested = 93 #correct = 401 % correct = 86%																										
	Shelby	# students tested = 132 #correct = 519 % correct = 79%																										
	Clanton	# students tested = 68 #correct = 230 % correct = 68%																										
	Pell City	# students tested = 46 #correct = 177 % correct = 77%																										

			<table><tr><td>Summer 2017</td><td>Jefferson</td><td># students tested = 36 #correct = 157 % correct = 87%</td></tr><tr><td></td><td>Shelby</td><td># students tested = 37 #correct = 174 % correct = 94%</td></tr><tr><td></td><td>Clanton</td><td># students tested = 0 #correct = 0 % correct = 0</td></tr><tr><td></td><td>Pell City</td><td># students tested = 19 #correct = 61 % correct = 64%</td></tr></table> <p>Total Students Tested = 556 Total Annual Success Rate = 82%</p>	Summer 2017	Jefferson	# students tested = 36 #correct = 157 % correct = 87%		Shelby	# students tested = 37 #correct = 174 % correct = 94%		Clanton	# students tested = 0 #correct = 0 % correct = 0		Pell City	# students tested = 19 #correct = 61 % correct = 64%	identification in the lab (hands on) component of the course. We will also continue to update models in the lab.
Summer 2017	Jefferson	# students tested = 36 #correct = 157 % correct = 87%														
	Shelby	# students tested = 37 #correct = 174 % correct = 94%														
	Clanton	# students tested = 0 #correct = 0 % correct = 0														
	Pell City	# students tested = 19 #correct = 61 % correct = 64%														
Plan submission date: September 18, 2018			Submitted by: Brenda Hammer													



Assessment Record

Program: Biology (BIO 220)

Assessment period: Fall 2017- Summer 2018

Program or Department Mission:

The mission of the Biology Department is consistent with the mission of Jefferson State Community College. The department provides biology courses appropriate for students majoring in both science and non-science disciplines. Our teaching aims to help prepare students for their future professions both inside and outside of the scientific field and also to be a more informed member of their community, able to make responsible decisions in biological matters.

Course Student Outcomes & Assessment Plan

Biology 220 Course Level Assessment Rubric:

General Education Objective

The student will demonstrate ability to apply reasoning and logic to assess ideas and situations, support positions, draw conclusions, and solve problems

The student will demonstrate understanding of mathematical concepts and scientific principles, and ability to use computers

Department Level Student Learning Outcomes

1. Students will understand the principles and processes that are fundamental to life.
2. Students will understand the fundamental principles of biology at the elemental, cellular, molecular, and organism levels.
3. Students will receive the appropriate Biological knowledge to support a career within the Scientific, Medical, or Health and Fitness community
4. Students will understand principles of human biology that relate to health and fitness

Course Level Student Learning Outcomes Assessed

1. Students will be able to identify the differences between prokaryotic and eukaryotic cells as well as the structure and function of microorganisms in various environments.
2. Students will recognize the metabolic and genetic pathways in microorganisms as well as the clinical and industrial applications of these properties.
3. Students will be able to identify the relationship between microorganism infection and disease, interactions with the host immune system, and various methods for controlling the growth and dissemination of microorganisms.
4. Students will be able to recognize proper laboratory technique and protocols including aseptic technique, media selection, slide preparation, and microscopy.

Intended Outcomes	Means of Assessment	Criteria for Success	Summary & Analysis of Assessment Evidence			Use of Results
1. Students will be able to identify the differences between prokaryotic and eukaryotic cells as well as the structure and function of microorganisms in various environments.	Student learning outcomes were assessed by using a 13 question standardized multiple choice examination at the end of the semester. A total of two questions (Q1 and Q2) were used to assess SLO-1.	70% or > successful 69% or < unsuccessful The percent is based upon the average of correctly answered questions related to SLO 1.	Fall 2017	Jefferson	# students = 90 # correct = 96 % correct = 53%	<p>The students tested did not meet the requirements for success for SLO 1.</p> <p>The success rate for SLO 1 is 54%. This represents a significant decrease from 2016-2017 when the success rate was 65%. Once again it should be noted that students in BIO 220 are not required to take BIO 103 as a prerequisite and are therefore lacking foundational knowledge in biology.</p> <p>We will emphasize the differences between prokaryotes and eukaryotes throughout the semester instead of only in the early chapters. Some instructors will be providing prokaryote vs eukaryote quizzes where as others have decided to implement a worksheet.</p>
				Shelby	# students = 42 # correct = 30 % correct = 36%	
				Clanton	# students = 18 # correct = 15 % correct = 42%	
				Pell City	# students = 14 # correct = 17 % correct = 61%	
			Spring 2018	Jefferson	# students = 65 # correct = 101 % correct = 78%	
				Shelby	# students = 90 # correct = 64 % correct = 36%	
				Clanton	# students = 16 # correct = 13 % correct = 41%	
				Pell City	# students = 18 # correct = 26 % correct = 72%	
			Summer 2018	Jefferson	# students = 57 # correct = 90 % correct = 79%	
				Shelby	# students = 60 # correct = 60 % correct = 50%	
				Clanton	# students = 16 # correct = 12 % correct = 38%	

				Pell City	# students = 0 # correct = % correct =	
			Total Students Tested = 486 Total Annual Success Rate = 54%			
2. Students will recognize the metabolic and genetic pathways in microorganisms as well as the clinical and industrial applications of these properties.	Student learning outcomes were assessed by using a 13 question standardized multiple choice examination at the end of the semester. A total of three questions (Q3 - Q5) were used to assess SLO2.	70% or > successful 69% or < unsuccessful The percent is based upon the average of correctly answered questions related to SLO 1.	Fall 2017	Jefferson	# students = 90 # correct = 193 % correct = 71%	<p>The students tested did meet the requirements for success for SLO 2.</p> <p>The success rate for SLO 2 is 75% which is consistent with data from 2016-2017.</p> <p>We will continue to illustrate during the laboratory activities how the metabolic and genetic pathways relate to the activity at hand.</p>
				Shelby	# students = 42 # correct = 91 % correct = 77%	
				Clanton	# students = 18 # correct = 38 % correct = 70%	
				Pell City	# students = 14 # correct = 39 % correct = 93%	
			Spring 2018	Jefferson	# students = 65 # correct = 138 % correct = 71%	
				Shelby	# students = 90 # correct = 210 % correct = 78%	
				Clanton	# students = 16 # correct = 24 % correct = 50%	
				Pell City	# students = 18 # correct = 49 % correct = 91%	
			Summer 2018	Jefferson	# students = 57 # correct = 140 % correct = 82%	
				Shelby	# students = 60 # correct = 138	

					% correct = 77%	
				Clanton	# students = 16 # correct = 29 % correct = 60%	
				Pell City	# students = 0 # correct = % correct =	
			Total Students Tested = 486 Total Annual Success Rate = 75%			
3. Students will be able to identify the relationship between microorganism infection and disease, interactions with the host immune system, and various methods for controlling the growth and dissemination of microorganisms.	Student learning outcomes were assessed by using a 13 question standardized multiple choice examination at the end of the semester. A total of two questions (Q6 and Q7) were used to assess SLO2.	70% or > successful 69% or < unsuccessful The percent is based upon the average of correctly answered questions related to SLO 1.	Fall 2017	Jefferson	# students = 90 # correct = 156 % correct = 87%	<p>The students tested did meet the requirements for success for SLO 3.</p> <p>The success rate for SLO 3 is 90% which is consistent with last years success rate.</p> <p>We will continue to emphasize content related to infectious diseases during lecture and lab.</p>
				Shelby	# students = 42 # correct = 82 % correct = 92%	
				Clanton	# students = 18 # correct = 25 % correct = 69%	
				Pell City	# students = 14 # correct = 22 % correct = 79%	
			Spring 2018	Jefferson	# students = 65 # correct = 116 % correct = 89%	
				Shelby	# students = 90 # correct = 166 % correct = 92%	
				Clanton	# students = 16 # correct = 26 % correct = 81%	
				Pell City	# students = 18 # correct = 31 % correct = 86%	

			<table><tr><td>Summer 2018</td><td>Jefferson</td><td># students = 57 # correct = 106 % correct = 93%</td></tr><tr><td></td><td>Shelby</td><td># students = 60 # correct = 107 % correct = 89%</td></tr><tr><td></td><td>Clanton</td><td># students = 16 # correct = 37 % correct = 97%</td></tr><tr><td></td><td>Pell City</td><td># students = 0 # correct = % correct =</td></tr></table> <p>Total Students Tested = 486 Total Annual Success Rate = 90%</p>	Summer 2018	Jefferson	# students = 57 # correct = 106 % correct = 93%		Shelby	# students = 60 # correct = 107 % correct = 89%		Clanton	# students = 16 # correct = 37 % correct = 97%		Pell City	# students = 0 # correct = % correct =										
Summer 2018	Jefferson	# students = 57 # correct = 106 % correct = 93%																							
	Shelby	# students = 60 # correct = 107 % correct = 89%																							
	Clanton	# students = 16 # correct = 37 % correct = 97%																							
	Pell City	# students = 0 # correct = % correct =																							
4. Students will be able to recognize proper laboratory technique and protocols including aseptic technique, media selection, slide preparation, and microscopy.	Student learning outcomes were assessed by using a 13 question standardized multiple choice examination at the end of the semester. A total of 6 questions (Q8 – Q13) were used to assess SLO4	70% or > successful 69% or < unsuccessful The percent is based upon the average of correctly answered questions related to SLO 1	<table><tr><td>Fall 2017</td><td>Jefferson</td><td># students = 90 # correct = 485 % correct = 90%</td></tr><tr><td></td><td>Shelby</td><td># students = 42 # correct = 214 % correct = 85%</td></tr><tr><td></td><td>Clanton</td><td># students = 18 # correct = 87 % correct = 81%</td></tr><tr><td></td><td>Pell City</td><td># students = 14 # correct = 68 % correct = 81%</td></tr><tr><td>Spring 2018</td><td>Jefferson</td><td># students = 65 # correct = 357 % correct = 92%</td></tr><tr><td></td><td>Shelby</td><td># students = 90 # correct = 429 % correct = 79%</td></tr><tr><td></td><td>Clanton</td><td># students = 16 # correct = 76</td></tr></table>	Fall 2017	Jefferson	# students = 90 # correct = 485 % correct = 90%		Shelby	# students = 42 # correct = 214 % correct = 85%		Clanton	# students = 18 # correct = 87 % correct = 81%		Pell City	# students = 14 # correct = 68 % correct = 81%	Spring 2018	Jefferson	# students = 65 # correct = 357 % correct = 92%		Shelby	# students = 90 # correct = 429 % correct = 79%		Clanton	# students = 16 # correct = 76	<p>The students tested did meet the requirements for success for SLO 4.</p> <p>The success rate for SLO 4 is 85% which is consistent with last years data.</p> <p>We will continue to emphasize proper laboratory techniques and protocols throughout the semester.</p>
Fall 2017	Jefferson	# students = 90 # correct = 485 % correct = 90%																							
	Shelby	# students = 42 # correct = 214 % correct = 85%																							
	Clanton	# students = 18 # correct = 87 % correct = 81%																							
	Pell City	# students = 14 # correct = 68 % correct = 81%																							
Spring 2018	Jefferson	# students = 65 # correct = 357 % correct = 92%																							
	Shelby	# students = 90 # correct = 429 % correct = 79%																							
	Clanton	# students = 16 # correct = 76																							

					% correct = 79%	
				Pell City	# students = 18 # correct = 94 % correct = 87%	
			Summer 2018	Jefferson	# students = 57 # correct = 303 % correct = 89%	
				Shelby	# students = 60 # correct = 303 % correct = 84%	
				Clanton	# students = 16 # correct = 76 % correct = 79%	
				Pell City	# students = 0 # correct = % correct =	
			Total Students Tested = 486 Total Annual Success Rate = 85%			
Plan submission date: September 19, 2018			Submitted by: Erin K Arnold			