

Program: Biology (BIO 101) Assessment period: Fall 2018 – Summer 2019

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	Summa	ary & Analys	is of Assessment Evidence	Use of Results
1. Students will recognize how the	Student learning outcomes were	70% or > successful 69% or <	Fall 2018	Jefferson	# students tested = 56 # correct = 96 % correct = 57	The students tested meet the
scientific method is utilized to explore biological	assessed by using a 15 question standardized	unsuccessful The percent is based upon the		Shelby	# students tested = 134 # correct = 367 % correct = 76	requirements for success for SLO 1.
processes	multiple choice examination at the end of the	average of correctly answered questions related		Pell City	# students tested = 14 # correct = 23 % correct = 55	The success rate for SLO 1 is 73%, a tad bit lower
	semester. A total of three questions (Q-1 – Q-3) were	to SLO 1.		Clanton	# students tested = 13 # correct = 29 % correct = 74	than last year's 74.9%.
ı	used to assess SLO-1.		Spring 2019	Jefferson	# students tested = 61 # correct = 133 % correct = 73	We will continue to implement the Scientific Method
				Shelby	# students tested = 113 # correct = 266 % correct = 78	and case studies.
				Pell City	# students tested = 16 # correct =32 % correct = 67	
				Clanton	# students tested = 23 # correct = 46 % correct = 67	
			Summer 2019	Jefferson	# students tested = 21 # correct = 41 % correct = 65	

				Shelby	# students tested = 31	
					# correct = 81	
					% correct = 87	
				Pell City	# students tested = 25	
					# correct =58	
					% correct =77	
				Clanton	# students tested = 20	7
					# correct =52	
					% correct =87	
			Total Studen Total Annual S			
			Fall 2018	Jefferson	# students tested = 56	
					# correct = 216	The students
					% correct = 55	tested did not
2. Students will	Student learning	70% or > successful		Shelby	# students tested = 134	meet the
have the ability to	outcomes were	69% or <		,	# correct = 655	requirements for
recognize	assessed by using	unsuccessful			% correct = 70	success for SLO 2.
biological	a 15 question	The percent is		Pell City	# students tested = 14	7
processes at the	standardized	based upon the			# correct = 55	The success rate
molecular, cellular	multiple choice	average of			% correct = 56	for SLO 2 is 68%,
and organismal	examination at the	correctly answered		Clanton	# students tested = 13	higher than last
levels	end of the	questions related			# correct = 59	year's 66.5%.
	semester. A total	to SLO 2.			% correct = 65	
	of seven questions		Spring 2019	Jefferson	# students tested =61	We will continue
	(Q4-Q10) were				# correct =283	to implement
	used to assess				% correct = 66	case studies,
	SLO-2.			Shelby	# students tested = 113	EdPuzzles, and
				,	# correct = 568	small group
					% correct = 72	reviews.
				Pell City	# students tested = 16	7
				,	# correct = 76	
					% correct = 68	
				Clanton	# students tested = 23	7
					# correct = 104	

					% correct = 65	
			Summer 2019	Jefferson	# students tested = 21 # correct = 112	
			2019		% correct = 76	
				Shelby	# students tested = 31	
				Silciby	# correct = 181	
					% correct = 83	
				Pell City	# students tested = 25	
					# correct = 150	
					% correct = 86	
				Clanton	# students tested = 20	
					# correct = 130	
					% correct = 93	
				1		
			Total Studen	ts Tostad -	455	
			Total Annual S			
			Fall 2018	Jefferson	# students tested = 56	The students
			1 411 2020	3011013011	# correct = 117	tested did not
3. Students will	Student learning	70% or > successful			% correct = 42	meet the
demonstrate an	outcomes were	69% or <		Shelby	# students tested = 134	requirements for
ability to identify	assessed by using	unsuccessful			# correct = 319	success for SLO 3.
basic anatomical	a 15 question	The percent is			% correct = 48	
structures and the	standardized	based upon the		Pell City	# students tested = 14	The success rate
correlating	multiple choice	average of		,	# correct = 24	for SLO 3 was
physiology of	examination at the	correctly answered			% correct = 34	50%, improved
human systems	end of the	questions related		Clanton	# students tested = 13	from last year's
	semester. A total	to SLO 3.			# correct = 38	49%.
	of five questions				% correct = 58	
	(Q11-Q15) were		Spring 2019	Jefferson	# students tested = 61	We will
	used to assess				# correct = 134	incorporate
	SLO-3.				% correct = 44	virtual dissections
				Shelby	# students tested = 113	and dissection
					# correct = 293	videos to improve
					% correct = 52	scores.
				Pell City	# students tested = 16	
					# correct = 42	

				% correct = 53	
			Clanton	# students tested = 23 # correct = 65 % correct = 57	
		Summer 2019	Jefferson	# students tested = 21 # correct = 62 % correct = 59	
			Shelby	# students tested = 31 # correct = 93 % correct = 60	
			Pell City	# students tested = 25 # correct = 109 % correct = 87	
			Clanton	# students tested = 20 # correct = 78 % correct = 78	
			nts Tested = 45 I Success Rate:		
Plan submission date:	1	Submitted b	y: Meena Bej		



rogram:	Biology (BIO 102)	Assessment period:	Fall 2018 – Summer 2019

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 of 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	Means of	Criteria for	Summary 9 Analysis of Assassment Evidence	Use of Results
Outcomes	Assessment	Success	Summary & Analysis of Assessment Evidence	Ose of Results

1. Students will	Student learning	70% or >	Fall 2018	Jefferson	# students tested = none	The students tested <u>did</u>
demonstrate knowledge of	outcomes were assessed by	successful 69% or <		Shelby	# students tested = 25 of 50	not meet the requirements for
evolution in both	using a 25	unsuccessful			# correct = 93 % correct = 53%	success for SLO 1.
plant of animal life.	question standardized	The percent is based upon the		Pell City	# students tested = none of 21	The success rate for
	multiple choice examination at the end of the	examination at correctly	Spring 2019	Jefferson	# students tested = 13 of 13 # correct = 56 % correct = 62%	SLO 1 was 58%. This is well below 70% and represents a 20 point
	semester. A total of 7 questions (Q1-	questions related to SLO 1.		Shelby	# students tested = 46 of 46 # correct = 173 % correct = 53%	decline over two years (78%)
	Q7) were used to assess SLO 1.			Pell City	# students tested = none of 24	It is difficult to draw conclusions from these
				Clanton	# students tested = none of 17	data as there were 11 sections of BIO 102
			Summer 2019	Shelby	# students tested = 20 of 26 # correct = 77 % correct = 55%	during this year with >200 students and we tested slightly greater than half (5 sections
				Pell City	# students tested = 22 of 22 # correct = 113 % correct = 73%	with 126 students). The number of classes surveyed increased by
			Total Studen Total Annual S	ts Tested = 1 Success Rate:	126 58%	one but the success rate of the classes surveyed continued to decline.
						We will continue to monitor the success rate and require that ALL sections be surveyed. This goal was undermined by in part
2. Students will	Student learning	70% or >	Fall 2018	Jefferson	# students tested = none	faculty turnover. The students tested did
identify general	outcomes were	successful	1 411 2010	3011013011	" stadents tested - none	not meet the

characteristics, anatomy, and taxonomy of plant and animals.	assessed by using a 25 question standardized multiple choice	69% or < unsuccessful The percent is based upon the average of		Shelby Pell City	# students tested = 25 # correct = 197 % correct = 56% # students tested = none of 21	requirements for success for SLO 2. The success rate for SLO 2 was 65%. This is
	examination at the end of the semester. A	correctly answered questions	Spring 2019	Jefferson	# students tested = 13 of 13 # correct = 107 % correct = 59%	below the 70% goal and represents a nine percent decline over
	total of 14 questions (Q8- Q21) were used	related to SLO 2.		Shelby	# students tested = 46 of 46 # correct = 415 % correct = 64%	two years (74%). It is difficult to draw
	to assess SLO 2.			Pell City	# students tested = none of 24	conclusions from these data as there were 11
				Clanton	# students tested = none of 17	sections of BIO 102 during this year with
			Summer 2019	Shelby	# students tested = 20 of 26 # correct = 186 % correct = 66%	>200 students and we tested slightly greater than half (5 sections
				Pell City	# students tested = 22 of 22 # correct = 254 % correct = 82%	with 126 students). The number of classes surveyed increased by
				ts Tested = 12 Success Rate: 6		one but the success rate of the classes surveyed continued to decline.
						We will continue to monitor the success rate and require that ALL sections be surveyed. This goal was undermined by in part faculty turnover.
3. Students will explain the	Student learning outcomes were assessed by	70% or > successful	Fall 2018	Jefferson Shelby	# students tested = none # students tested = 25 of 50	The students tested <u>did</u> not meet the

interrelationships	using a 25	69% or <			# correct = 63	requirements for
between the varied	question	unsuccessful			% correct = 63%	success for SLO 3.
life forms on earth	standardized	The percent is		Dall City	# students tested = none of 21	success for 3LO 3.
		<u> </u>		Pell City	# students tested = none of 21	The success rate for
and identify the role	multiple choice	based upon the	0 1 0010			
of humans within	examination at	average of	Spring 2019	Jefferson	# students tested = 13 of 13	SLO 3 was 69%. This is
ecological systems.	the end of the	correctly			# correct = 32	slightly below the 70%
	semester. A	answered			% correct = 62%	goal and represents a 4
	total of 4	questions		Shelby	# students tested = 46 of 46	point increase over
	questions (Q22-	related to SLO 3.			# correct = 122	two years (65%).
	Q25) were used				% correct = 66%	
	to assess SLO 3.			Pell City	# students tested = none of 24	It is difficult to draw
						conclusions from these
				Clanton	# students tested = none of 17	data as there were 11
						sections of BIO 102
			Summer	Shelby	# students tested = 20 of 26	during this year with
			2019	,	# correct = 49	>200 students and we
					% correct = 61%	tested slightly greater
				Pell City	# students tested = 22 of 22	than half (5 sections
					# correct = 84	with 126 students).
					% correct = 95%	The success rate of the
					70 0011000 3370	classes surveyed
			Total Studen	ts Tostad = 1	126	increased due in large
			Total Annual			part to the Pell City
			Total Alliual S	ouccess nate.	03/6	Data.
						We will continue to
						monitor the success
						rate and require that
						ALL sections be
						surveyed. This goal was
						undermined by in part
						faculty turnover.
		1				racuity turnover.
Plan submission date	: Plan submission o	late: 9/11/2019	Submitted by:	Charles J. Ve	englarik	
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Program:	Biology (BIO 103)	Assessment period:	Fall 2018 – Summer 2019
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Program or Department Mission:

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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 communit
- 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	Summa	ary & Analys	is 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	Spring 2019 Summer 2019	Jefferson Shelby Pell City Clanton Shelby Pell City Clanton Jefferson Jefferson	# students tested =51 # correct = 148 % correct = 73 # students tested = 52 # correct = 160 % correct = 77 # students tested =0 # correct =0 % correct = 0 # students tested = 21 # correct = 57 % correct = 68 # students tested = 40 # correct =153 % correct = 96 # students tested = 72 # correct =195 % correct = 68 # students tested = 18 # correct =57 % correct = 57 % correct = 57 % correct = 58 # students tested = 15 # correct = 50 % correct = 83 # students tested = 31 # correct = 116	The students tested did meet the requirements for success for SLO 1. The success rate for SLO 1 is 77.7%. This is above the 70% standard we were trying to obtain. We will continue to include chemistry review and incorporate principles from SLO 1 throughout our courses.

	<u> </u>			T		
					% correct = 94	
				Shelby	# students tested =20	
					# correct =59	
					% correct = 74	
				Pell City	# students tested =0	
					# correct = 0	
					% correct = 0	
				Clanton	# students tested = 0	
					# correct =0	
					% correct = 0	
			Total Studen			
			Total Annual S	Success Rate:	77.7%	
2: Students will	Student learning	70% or >	F-II 2010	Jefferson	# st. d s. t s t s t s 1	The students
demonstrate an		successful	Fall 2018	Jefferson	# students tested = 51	
ability to identify	outcomes were assessed by using	69% or <			# correct = 204 % correct = 57	tested did not
molecular and	a 12 question	unsuccessful		Shelby	# students tested =52	meet the
cellular processes in	standardized	The percent is		Shelby	# correct = 213	requirements for
prokaryotic and	multiple choice	based upon the			% correct = 59	success for SLO 2.
eukaryotic cells.	examination at	average of		Pell City	# students tested = 0	\dashv
eukai yotic celis.	the end of the	correctly answered		Pell City	# correct =0	The success rate
	semester. A total	questions related			% correct = 0	for SLO 2 was
	of seven questions	to SLO2		Clanton	# students tested = 21	58.7%, which is a
	(Q5 – Q11) were	10 3202		Clanton	# correct =72	slight
	used to assess					
	SLO2		Spring 2010	Jefferson	% correct = 49	improvement
	3202		Spring 2019	Jenerson	# students tested = 40	above the
					# correct =112	previous 2 years
				Challer	% correct =93	(58%).
				Shelby	# students tested = 72	
					# correct =315	We will review
				D . II C'I	% correct = 63	the textbook
				Pell City	# students tested = 18	currently used in
					# correct =61	this course and
					% correct = 48	consider other

Summer 2019	Clanton Jefferson Shelby Pell City	# students tested =15 # correct =71 % correct = 68 # students tested = 31 # correct =187 % correct = 86 # students tested = 20 # correct =80 % correct = 57 # students tested =0 # correct = 0	textbooks that may make the information easier to access and understand. Additionally, we will incorporate labs that address current topics in Biology to encourage active
	Clanton ots Tested =320 I Success Rate:	% correct = 0 # students tested = 0 # correct =0 % correct = 0	participation in the science process which may lead to a better understanding of complex processes addressed in this SLO.

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	70% or > successful 69% or < unsuccessful The percent is based upon the average of correctly answered question related to SLO3	Fall 2018	Shelby Pell City Clanton	# students tested =51 # correct = 100 % correct = 65 # students tested =52 # correct = 69 % correct = 44 # students tested = 0 # correct =0 % correct = 0 # students tested =21 # correct =57	The students tested did not meet the requirements for success for SLO 3. The success rate for SLO 3 was 63%. There was no change in the
	used to assess				# correct = 57 % correct = 90	SLO percentage
	SLO3		Spring 2019	Jefferson	# students tested = 40 # correct =112 % correct =93	as compared to the previous evaluation (2017-
				Shelby	# students tested = 72 # correct =118 % correct = 55	2018).
				Pell City	# students tested = 18 # correct = 22 % correct = 54	We will attempt to cover this material
				Clanton	# students tested = 15 # correct = 30 % correct = 67	comparatively throughout the course instead of
			Summer 2019	Jefferson	# students tested = 31 # correct = 70 % correct = 75	at the very end of the semester and this topic will be a
				Shelby	# students tested =20 # correct =27 % correct = 45	point of consideration in
				Pell City	# students tested =0 # correct = 0 % correct = 0	the evaluation of our current textbook.
				Clanton	# students tested = 0 # correct = 0 % correct = 0	

	Total Students Tested = 320
	Total Annual Success Rate: 63%
Plan submission	Submitted by: Amanda Swindall
date:09/12/2019	



Program: Biology (BIO 104)

Assessment period: Fall 2018 –Summer 2019

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.
- 5. The student can recognize components of community ecology and identify how biodiversity contributes to a stable ecosystem.

Intended	Means of	Criteria for	Summary & Analysis of Assassment Evidence	Lico of Posuits
Outcomes	Assessment	Success	Summary & Analysis of Assessment Evidence	Use of Results

1. The student will	Student learning	70% or > successful	Fall	Jefferson	# students tested = 19	The students tested did not
recognize the	outcomes were	69% or <	2018		# correct = 116	meet the requirements for
fundamental	assessed using a 20	unsuccessful			% correct = 68	success for SLO 1.
principles and	question multiple-	The percent is	Spring	Jefferson	# students tested = 22	1 0000033 101 525 11
' '	choice assessment at	based upon the	2019		# correct =147	
supporting evidence	the end of each	average of correctly			% correct = 74%	
necessary to explain	semester. A total of	answered questions	Spring	Shelby	# students tested = 20	The success rate for SLO 1 is set
Darwinian evolution.	9 questions (Q1-Q6	(1 to 6) related to	2019		# correct =89	at 70 % and our students
	and Q 18-20) were	SLO 1. (6 questions)			% correct = 49	scored below at 64%. We
	used to assess		Summer	Jefferson	# students tested = 17	added more class discussion
	understanding of		2019		# correct =47	and review through the whole
	SLO1		_		% correct =55	term on processes that were
			Summer	Shelby	# students tested = 23	taught in the beginning of the
			2019		# correct =147	
				<u> </u>	% correct = 71	semester.
				ents Tested =	-	We will encourage course
			Total Annu	ual Success Ra	ite = 64%	
						review throughout the term in
						the future.
2. The student will	Student learning	70% or > successful	Fall	Jefferson	# students tested = 19	The students tested did meet
demonstrate an	outcomes were	69% or <	2018		# correct =90	the requirements for success
ability to identify the	assessed using a 20	unsuccessful			% correct = 79	for SLO 2.
structural	question multiple-	The percent is	Spring	Jefferson	# students tested = 22	
characteristics and	choice assessment at	based upon the	2019		# correct =121	The success rate for SLO 2 Is 70
life cycles of both	the end of each	average of correctly			% correct = 92	percent and our students did
•	semester. A total of	answered questions				master these topics with an
plant and animal	6 questions (Q7-Q12)	(7 to 12 and 18 to	Spring	Shelby	# students tested = 20	SLO assessment success rate of
phyla.	were used to assess	20) related to SLO 2.	2019		# correct =79	76.5%
	mastery of SLO2	(9 total)			% correct = 66	10.5%
			Summer	Jefferson	# students tested =17	We will continue to reteach key
			2019		# correct =85	topics and emphasize learning
					% correct = 83	
			Summer	Shelby	# students tested = 23	via class discussions.
			2019		# correct =89	
					% correct =64	
			_			
			Total Stud	ents Tested =	101	

			Total Annu	ual Success Ra	ate = 76.5%	
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 2018 Spring 2019 Spring 2019 Summer 2019 Summer 2019	Jefferson Jefferson Shelby Jefferson Shelby	# students tested = 19 # correct = 57 % correct = 60 # students tested = 22 # correct = 90 % correct = 82 # students tested = 20 # correct = 53 % correct = 53 # students tested = 17 # correct = 47 % correct = 55 # students tested = 23 # correct = 63 % correct = 55	The students tested did not meet the requirements for success for SLO 3. The success rate for SLO is 70 % and our students scored below that level at 61.4% We will continue to review but will also analyze the wording of these SLOs and see if we can make the questions clearer.
			1000.000	ents Tested = ual Success Ra	: 101	
Plan submission date:		Submitted	by: M. Ross			



Program:	Biology (BIO 201)	Assessment period:	Fall 2018 – Summer 2019
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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	Sumn	Use of Results		
SLO 1: Students will be able to identify the terminology used in anatomy and	Student learning outcomes were assessed by using a 16 question standardized	Correct responses by 70% of the students for each SLO will be defined as a	Fall 2018	Jefferson Shelby	# students tested = 84 # correct = 133 % correct = 79 # students tested = 236 # correct = 387	The students tested did meet the requirements for success for SLO 1.
physiology	multiple choice examination at the end of the semester. A total of 2 questions (Q2 and Q3) were used to assess	successful outcome.	Spring 2019	Clanton Pell City Jefferson	% correct = 82 # students tested = 0 # correct = % correct = # students tested = 54 # correct = 72 % correct = 67 # students tested = 45 # correct = 73	The success rate for SLO 1 is 79.9%, across all campuses, a 2.6% decrease from 2017-18.
	SLO1			Shelby Clanton Pell City	% correct = 81 # students tested = 150 # correct = 251 % correct = 84 # students tested = 32 # correct = 48 % correct = 75 # students tested = 50	to use vocabulary terms throughout each chapter to reinforce the regional and directional terms. Faculty will emphasize the relationship

					# correct = 69	between
					% correct = 69	structure and
			Summer	Jefferson	# students tested = 26	function.
			2019	Jenerson	# correct = 42	1
					% correct = 81	1
				Shelby	# students tested = 62	
				J ,	# correct = 106	1
					% correct = 85	1
				Clanton	# students tested = 20	1
					# correct = 32	1
					% correct = 80	
				Pell City	# students tested = 0	ı
				3 5,	# correct =	
					% correct =	
			Total Student	s Tested = 759		
			Total Annual			
SLO 2: Students will	Student learning	Correct	Fall 2018	Jefferson	# students tested = 84	The students
be able to identify	outcomes were	responses by			# correct = 278	tested did meet
and recognize the	assessed by	70% of the			% correct = 83	the requirements
distinct characteristics	using a 16	students for		Shelby	# students tested = 236	for success for
of the systems listed	question	each SLO will			# correct = 733	SLO 2.
below	standardized	be defied as a			% correct = 78	
A. Integumentary	multiple choice	successful		Clanton	# students tested = 0	The success rate
System	examination at	outcome.			# correct =	for SLO 2 is
B. Skeletal System	the end of the				% correct =	72.99% across all
C. Muscular System	semester. A			Pell City	# students tested = 54	campuses, a 4.1%
D. Nervous System	total of 4				# correct = 125	decrease from
D. Nervous system	questions (Q5,				% correct = 58	2017-18.
	Q8, Q11, and		Spring 2019	Jefferson	# students tested = 45	
	Q14) were used				# correct = 129	We will continue
	to assess SLO2				% correct = 72	to stress the
				Shelby	# students tested = 150	details of each
					# correct = 462	organ system in
					% correct = 77	both lecture and
				Clanton	# students tested = 32	lab throughout
					# correct =84	the semester.

					% correct = 66	
				Pell City	# students tested = 50 # correct = 108 % correct = 54	
			Summer	Jefferson	# students tested = 26	
			2019		# correct = 73	
					% correct = 70	
				Shelby	# students tested = 62	-
				,	# correct = 156	
					% correct = 63	
				Clanton	# students tested = 20	
					# correct = 68	
					% correct = 85	
				Pell City	# students tested = 0	
					# correct =	
					% correct =	
			Total Annual S			
SLO 3: Students will	Student learning	Correct	Fall 2018	Jefferson	# students tested = 84	The students
recognize the	outcomes were	responses by			# correct = 198	tested did not
relationship between	assessed by	70% of the			% correct = 59	meet the
structural	using a 16	students for		Shelby	# students tested = 236	requirements for
organization and	question	each SLO will			# correct = 532	success for SLO 3.
function	standardized	be defied as a			% correct = 56	
	multiple choice	successful		Clanton	# students tested = 0	The success rate
		at.a.aa.a				
	examination at	outcome.			# correct =	for SLO 3 is 53.7%
	the end of the	outcome.		Dall City	% correct =	across all
	the end of the semester. A	outcome.		Pell City	% correct = # students tested = 54	across all campuses, a 2.8%
	the end of the semester. A total of 4	outcome.		Pell City	% correct = # students tested = 54 # correct = 77	across all campuses, a 2.8% decrease from
	the end of the semester. A total of 4 question (Q1,	outcome.	Spring 2010		% correct = # students tested = 54 # correct = 77 % correct = 36	across all campuses, a 2.8%
	the end of the semester. A total of 4	outcome.	Spring 2019	Pell City Jefferson	% correct = # students tested = 54 # correct = 77 % correct = 36 # students tested = 45	across all campuses, a 2.8% decrease from
	the end of the semester. A total of 4 question (Q1, Q7, Q9, Q13)	outcome.	Spring 2019		% correct = # students tested = 54 # correct = 77 % correct = 36	across all campuses, a 2.8% decrease from 2017-18.

			Summer 2019	Shelby Clanton Pell City Jefferson Shelby Clanton Pell City	# students tested = 150 # correct = 336 % correct = 56 # students tested = 32 # correct = 56 % correct = 44 # students tested = 50 # correct = 80 % correct = 40 # students tested = 26 # correct = 67 % correct = 64 # students tested = 62 # correct = 144 % correct = 58 # students tested = 20 # correct = 52 % correct = 65 # students tested = 0 # correct = % correct =	function in both lecture and lab for all organ systems covered. We will also supplement lecture content with activities and/or videos that emphasize the relationship between structure and function. Additionally, we will assess and update SLO questions for relevance to content.
				ts Tested = 759		
			Total Annual	Success Rate =	= 53./%	
SLO 4: Student will define homeostasis and identify the role	Student learning outcomes were assessed by	Correct responses by 70% of the	Fall 2018	Jefferson	# students tested = 84 # correct = 157 % correct = 93	The students tested did meet the requirements
of homeostasis within and between appropriate systems	using a 16 question standardized	students for each SLO will be defied as a		Shelby	# students tested = 236 # correct = 401 % correct = 85	for success for SLO 4.
,	multiple choice examination at the end of the	successful outcome.		Clanton	# students tested = 0 # correct = % correct =	The success rate for SLO 4 is 83.5% across all
	semester. A total of 2 questions (Q15			Pell City	# students tested = 54 # correct = 65 % correct = 60	campuses, a 3.5% decrease from 2017-2018.

	and Q16) were used to assess SLO4		Summer 2019 Total Student Total Annual St			We will continue to stress the importance of homeostasis in each organ system.
	<u> </u>		 	T	T	
SLO 5: Students will identify the major structures of each	Student learning outcomes were assessed by	Correct responses by 70% of the	Fall 2018	Jefferson	# students tested = 84 # correct = 256 % correct = 76	The students tested did meet the requirements
system A.Integumentary System	using a 16 question standardized	students for each SLO will be defied as a		Shelby	# students tested = 236 # correct = 747 % correct = 79	for success for SLO 5.
B.Skeletal System C.Muscular System	multiple choice examination at	successful outcome.		Clanton	# students tested = 0 # correct =	The success rate for SLO 5 is 75.5%
D.Nervous System	the end of the				% correct =	across all

	2019		# correct = 80	
	2019		% correct = 77	
		Shelby	# students tested = 62 # correct = 196	
			% correct = 79	_
		Clanton	# students tested = 20	
			# correct = 56	
			% correct = 70	
		Pell City	% correct = 70 # students tested = 0	-
		Pell City		
		Pell City	# students tested = 0	
		Doll City	% correct = 70	_
		Clanton		
		Clanton		-
			# correct = 196	
		Shelby		
		- · · · ·		_
	2019			
		Jenerson		
	Summer	Jefferson	# students tested = 26	-
			% correct = 147	
		Pell City	# students tested = 100 # correct = 147	function.
		Pell City	# students tested = 100	structure and
			# correct = 96 % correct = 75	between
		Clanton		relationship
		Clanton	% correct = 79 # students tested = 32	on the
			# correct = 472	system and focu
		Shelby	# students tested = 150	major structures of each organ
to assess SLO5			% correct = 68	to emphasize th
Q12) were used			# correct = 122	We will continue
Q6, and Q10,	Spring 2019	Jefferson	# students tested = 45	M/2 211 12 -
questions (Q4,			% correct = 56	2017-18.
total of 4			# correct = 121	decrease from
semester. A		Pell City	# students tested = 54	campuses, a 2.4%





Program: B	Biology (BIO 202)	Assessment period:	Fall 2018- Summer 2019
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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	Summ	Use of Results		
1: Students will define and describe the systems listed below.	Student learning outcomes were	70% or > successful 69% or <	Fall 2018	Jefferson	# students tested = 46 #correct = 173 % correct = 75%	The students tested did meet the requirements
A. Endocrine System B. Cardiovascular System	assessed by using a 12 question	unsuccessful The percent is based upon the		Shelby	# students tested = 99 #correct = 355 % correct = 72%	for success for SLO 1.
C. Lymphatic and Immune System D. Respiratory	standardized multiple choice examination at	average of correctly answered		Clanton	# students tested = NA #correct = NA % correct = NA	The success rate for SLO 1 was 73% across all
System E. Digestive System	the end of the semester. A	questions		Pell City	# students tested = 5 #correct = 20	campuses. This is consistent with

F. Urinary System G. Reproductive System	total of five questions (Q2, Q4, Q7, Q8, Q12) were used to assess SLO1.	related to SLO 1.	Summer 2019 Total Student: Total Annual Students and Stu			results from 2017-2018. Efforts have been made to ensure students have a complete understanding of the various organ systems. Case studies have been implemented across various sections. We will continue to reinforce the various organ systems in both lecture and lab.
2: Students will define	Student	70% or >	Fall 2018	Jefferson	# students tested = 46	The students
homeostasis and identify the role of homeostasis	learning outcomes were	successful 69% or <	Fall Z018	Jellerson	# students tested = 46 #correct = 75 % correct = 82%	tested did meet the requirements
within and between appropriate systems.	assessed by using a 12 question	unsuccessful The percent is based upon the		Shelby	# students tested = 99 #correct =168 % correct = 85%	for success for SLO 2.
	standardized multiple choice	average of correctly		Clanton	# students tested = NA	The success rate for SLO 2 is 81%

	examination at the end of the semester. A total of 2 questions (Q1 and Q6) were used to assess SLO2.	answered questions related to SLO2.	Spring 2019 Summer 2019 Total Students			which again is consistent with the data collected in 2017-18. Homeostasis is stressed in both 201 and 202 and throughout every chapter. This is an underlying theme across all sections taught. We will continue to stress the importance of homeostasis in each chapter and with each organ system.
			Total Students Total Annual S			
3: Students will be able to recognize the major	Student learning outcomes were	70% or > successful	Fall 2018	Jefferson	# students tested = 46 #correct = 197 % correct = 86%	The students tested did meet the requirements

		1	1			T	
	res of each system	assessed by	69% or <		Shelby	# students tested = 99	for success for
listed b		using a 12	unsuccessful			#correct = 424	SLO 3.
	Endocrine System	question	The percent is			% correct = 86%	
B.	Cardiovascular	standardized	based upon the		Clanton	# students tested = NA	The success rate
	System	multiple choice	average of			#correct = NA	for SLO 3 is 81%
C.	Lymphatic and	examination at	correctly			% correct = NA	which is
	Immune System	the end of the	answered		Pell City	# students tested = 5	consistent with
D.	Respiratory	semester. A	questions		-	#correct =18	data collected in
	System	total of 5	related to SLO3.			% correct = 72%	2017-18. Efforts
E.	Digestive System	questions (Q3,		Spring 2019	Jefferson	# students tested = 54	have been made
F.	Urinary System	Q5 and Q9-Q11)				#correct = 224	across the
G.	Reproductive	were used to				% correct = 83%	campuses to
	System	assess SLO3.			Shelby	# students tested = 136	increase the
					,	#correct = 532	quality and
						% correct = 78%	number of
					Clanton	# students tested = 55	models in BIO
					o.a	#correct = 250	202.
						% correct = 91%	
					Pell City	# students tested = 44	We will continue
					. c.i Gicy	#correct = 154	to teach organ
						% correct = 70%	system
				Summer	Jefferson	# students tested = 39	identification in
				2019	3011013011	#correct = 162	the lab.
				2013		% correct = 83%	
					Shelby	# students tested = 60	
					Sileiby	#correct = 228	
						% correct = 76%	
					Clanton	# students tested = 20	\dashv
					Claritori	#correct = 72	
						% correct = 72%	
					Pell City		_
					Pell City	# students tested = NA	
						#correct = NA	
						% correct = NA	
				Total Students Total Annual S			
							l

Plan submission date: Sept	ember 11, 2019	Submitted by: Erin K Arnold	



Program:	Biology (BIO 220)	Assessment period:	Fall 2018- Summer 2019
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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	Summ	ary & Anal Evic	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 2018	Jefferson Shelby Clanton Pell City	# students = 47 # correct = 66 % correct = 70% # students = 77 # correct = 66 % correct = 43% # students = 14 # correct = 5 % correct = 18% # students = 25 # correct = 24 % correct = 48%	The students tested did not meet the requirements for success for SLO 1. The success rate for SLO 1 was 56%. Though it was a slight increase from the previous 2017-2018 data period(54%) it did not meet the projected mark. It should be noted again that students are not required to take BIO 103

			Spring	Jefferson	# students = 62	as a prerequisite for BIO
			2019		# correct = 85	220 and are therefore
					% correct = 69%	lacking foundational
				Shelby	# students = 101	knowledge in biology.
				,	# correct = 93	
					% correct = 46%	We will continue to
				Clanton	# students = 19	emphasize the
					# correct = 26	differences between
					% correct = 68%	prokaryotic and
				Pell City	# students = 15	eukaryotic cells
				-	# correct = 20	throughout the semester.
					% correct = 67%	As noted previously,
			Summer	Jefferson	# students = 66	some instructors also
			2019		# correct = 103	administer quizzes on
					% correct = 78%	comparing the two cell
				Shelby	# students = 56	types; where others
					# correct = 54	provide worksheets.
					% correct = 48%	
				Clanton	# students = 19	We have also decided to
					# correct = 21	evaluate questions two
					% correct = 55%	and three of the SLO
				Pell City	# students = 0	assessment.
					# correct =	
					% correct =	
				ents Tested		
			Total Annu	ial Success I	Rate = 56%	
2. Students will	Student learning	70% or > successful	Fall 2018	Jefferson	# students = 47	
recognize the	outcomes were	69% or <			# correct = 114	The students tested did
metabolic and genetic	assessed by using a	unsuccessful			% correct = 81%	meet the requirements
pathways in	13 question	The percent is		Shelby	# students = 77	for success for SLO 2.
	standardized	based upon the			# correct = 161	
microorganisms as	multiple choice	average of			% correct = 70%	The success rate for SLO 2
well as the clinical and	examination at the	correctly answered		Clanton	# students = 14	was 73.4% which was a
industrial applications	end of the semester.	questions related			# correct = 20	slight decrease when
of these properties.	A total of three	to SLO-2.	•	•	•	

	questions (O2 OF)				0/ correct - 400/	compared to data from
1	questions (Q3 - Q5)			D. II C''	% correct = 48%	compared to data from
1	were used to assess			Pell City	# students = 25	2017-2018(75%).
	SLO-2.				# correct = 56	We will continue to
					% correct = 75%	
1			Spring	Jefferson	# students = 62	illustrate how the
			2019		# correct = 146	metabolic and genetic
					% correct = 78%	pathways relate to the
				Shelby	# students = 101	activities at hand during
1					# correct = 208	laboratory exercises.
1					% correct = 69%	
1				Clanton	# students = 19	
					# correct = 37	
					% correct = 65%	
				Pell City	# students = 15	
					# correct = 32	
					% correct = 71%	
			Summer	Jefferson	# students = 66	
			2019		# correct = 171	
					% correct = 86%	
				Shelby	# students = 56	
					# correct = 122	
					% correct = 77%	
				Clanton	# students = 19	
					# correct = 36	
					% correct = 63%	
				Pell City	# students = 0	
					# correct =	
					% correct =	
			Total Stude	nts Tested =	501	
			Total Annu	al Success Ra	ite = 73.4%	
3. Students will be	Student learning	70% or > successful	Fall 2018	Jeffersor	n # students = 47	The students tested did
able to identify the	outcomes were	69% or <			# correct = 89	meet the requirements
relationship between	assessed by using a	unsuccessful			% correct = 95%	for success for SLO 3.
microorganism	13 question	The percent is		Shelby	# students = 77	
infection and disease,	standardized	based upon the		,	# correct = 144	The success rate for SLO 3
	multiple choice	average of	1 1		% correct = 94%	was 91% which is

[1	., .			1,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	T
interactions with the	examination at the	correctly answered		Clanton	# students = 14	consistent with last years
host immune system,	end of the semester.	questions related			# correct = 23	success rate (90%).
and various methods	A total of two	to SLO-3.			% correct = 82%	
for controlling the	questions (Q6 and			Pell City	# students = 25	We will continue to
growth and	Q7) were used to				# correct = 39	emphasize content
dissemination of	assess SLO-3.				% correct = 78%	related to infectious
microorganisms.			Spring 2019	Jefferson	# students = 62	diseases during lecture
microorganisms.					# correct = 109	and lab sessions.
					% correct = 88%	
				Shelby	# students = 101	Implementation of case-
					# correct = 185	studies in a variety of the
					% correct = 92%	science courses may also
				Clanton	# students = 19	lend to the success rate in
					# correct = 33	this content area.
					% correct = 87%	
				Pell City	# students = 15	
					# correct = 27	
					% correct = 90%	
			Summer	Jefferson	# students = 66	
			2019		# correct = 124	
					% correct = 94%	
				Shelby	# students = 56	
					# correct = 105	
					% correct = 94%	
				Clanton	# students = 19	
					# correct = 30	
					% correct = 79%	
				Pell City	# students = 0	
					# correct =	
					% correct =	
			Total Student	s Tested = 5	01	
			Total Annual S	Success Rate	e = 91%	
					01	

4. Students will be	Student learning	70% or > successful	Fall	Jefferson	# students = 47	The students tested did
able to recognize	outcomes were	69% or <	2018		# correct = 263	meet the requirements
proper laboratory	assessed by using a	unsuccessful			% correct = 93%	for success for SLO 4.
technique and	13 question	The percent is		Shelby	# students = 77	
protocols including	standardized	based upon the			# correct = 375	The success rate for SLO 4
aseptic technique,	multiple choice	average of			% correct = 81%	was 82% which was a
media selection, slide	examination at the	correctly answered		Clanton	# students = 14	decrease from the 2017-
·	end of the semester.	questions related			# correct = 58	2018 data rate (85%).
preparation, and	A total of 6 questions (Q8 – Q13) were used to assess SLO-4.	to SLO-4.			% correct = 69%	We will continue to emphasize the proper laboratory techniques and protocols throughout the semester.
microscopy.				Pell City	# students = 25	
					# correct = 99	
					% correct = 66%	
			Spring 2019	Jefferson	# students = 62	
					# correct = 322	
					% correct = 87%	
				Shelby	# students = 101	
					# correct = 474	
					% correct = 78%	
				Clanton	# students = 19	
					# correct = 104	
					% correct = 91%	
				Pell City	# students = 15	
					# correct = 76	
					% correct = 84%	
			Summer	Jefferson	# students = 66	
			2019		# correct = 335	
					% correct = 85%	
				Shelby	# students = 56	
					# correct = 258	
					% correct = 77%	
				Clanton	# students = 19	
					# correct = 98	
					% correct = 86%	
				Pell City	# students = 0	
					# correct =	
					% correct =	
			Total Students Tested = 501			

			Total Annual Success Rate = 82%		
Plan submission date: Fall 2019			Submitted by: Stephanie Miller		