COURSE+P 1A1:P96		SLO	FA 2015	Spr 2016	FA 2016	Spr 2017	FA 2017	Spr 2018	FA 2018	Spr 2019	FA 2019	Spr 2020	FA 2020	Spr 2021	Spr 2015
105	1	Examine characteristics of organisms observed and predict the adaptive value of those traits.				x									
110	1	Draw depictions of oceanographic conditions and describe the affect of these conditions on the distribution of plants and animals in ocean basins		ASP											
112	1	Given several specific resources, explain the relationship between the use of those resources and their associated impact(s) on the environment.													
	2	Describe the components of an ecosystem													
	3	Diagram the pathway for energy as it enters the biosphere, is fixed by autotrophs, moves within and between trophic levels and finally exits to the atmosphere.													
114	1	Students will be able to identify the major Biological Events in Geological Time													
	2	Students will be able to calculate allele frequencies from population data													
118	1	Define and distinguish between the scientific method of investigation and other ways of knowing things.		x											
	2	List at least three types of evidence that have lead to the Theory of Organic Evolution.		x											

		SLO	FA 2015	Spr 2016	FA 2016	Spr 2017	FA 2017	Spr 2018	FA 2018	Spr 2019	FA 2019	Spr 2020	FA 2020	Spr 2021	Spr 2015
	3	Given an observation of a disruption in homeostasis, student will be able to identify the three parts of the negative feedback involved, and how homeostasis is restored in the body.		X											
	4	Describe the physiological effects of long-term sympathetic nervous system stimulation on the human body.		X											
120	1	Be able to define the terms diffusion and osmosis.	ASP												
	2	Be able to explain the relationship between molecular weight and the rate of a molecule's diffusion.	ASP												
	3	Be able to describe how the solute concentration, inside of a cell, effects the rate (speed) of osmosis.	ASP												
	4	~~Be able to define the following terms: concentration gradient, selectively permeable membrane, hypertonic, hypotonic, isotonic, and homeostasis.~~	~~ASP~~												
	4	Be able to describe how the solute concentration, inside of a cell, effects the rate (speed) of osmosis.	X												
132	1														
		Students will be able to list, describe and give examples of the special adaptations marine mammals have evolved to regulate													
	2	2. Students will be able to demonstrate an understanding of marine mammal body structure and function by naming and explaining the function of skeletal and external body parts.													

COURSE+P 1A1:P96

Course	#	SLO	FA 2015	Spr 2016	FA 2016	Spr 2017	FA 2017	Spr 2018	FA 2018	Spr 2019	FA 2019	Spr 2020	FA 2020	Spr 2021	Spr 2015
140	1	Explain the interrelationship between structure and function.													
	2	Trace the pathway of blood through the heart and identify the relative oxygen content of the blood in each chamber.	ASP												
	3	Compare and identify the developmental outcomes of the three cell layers in the embryonic inner cell mass.		X											
141	1	Describe factors that contribute to denaturation in enzymes		X											
	2	Given an observation of a disruption in homeostasis, student will be able to identify the body receptor, control center, and effector involved, and using this information to draw a diagram and write a statement as to how the body restores homeostasis.	ASP												
	3	Describe the physiological effects of long-term sympathetic nervous system stimulation on five organ systems.		X											
142	1	Given an observation, student will write a hypothesis, design an experiment with control and experimental variables, collect and analyze data, graph the results, and interpret the result in the terms of the experimental question.	ASP												
	2	Define systolic and diastolic pressure		X											
	3	Construct and label Cartesian graphs, frequencytables, pie charts and scatter plot graphs, given a table of data with two variables.		X											
~~144~~	~~1~~	~~Define tissue.~~				X									

COURSE+P 1A1:P96		SLO	FA 2015	Spr 2016	FA 2016	Spr 2017	FA 2017	Spr 2018	FA 2018	Spr 2019	FA 2019	Spr 2020	FA 2020	Spr 2021	Spr 2015
	2	~~Describe two types of tissue: Epithelial and connecctive.~~				x									
	3	~~Differentiate between two types of tissues.~~				x									
	4	~~Observe a tissue sample and based on appearance and characteristics, identify wheather epithelial or connective. Name sub type.~~				x									
144	1	Students will be able to list types of membrane proteins according to their functions.				x									
	2	Using a 1-2 sentences, students will be able to describe the functions of membrane proteins				x									
	3	Students will be able to apply information on membrane proteins to discuss locations of these proteins. i.e. mention for each protein whether it's peripheral or integral.				x									
145	1	Define Dalton's law of partial pressure.		x											
	2	Describe gas diffusion during respiratory stages according to Dalton's law of partial pressure.		x											
	3	Apply the concept of Dalton's Law of Partial Pressure to specific situations that can be explained by using this concept, like deviation from normal gas diffusion under altered parameters.		x											
152	1	create a pure culture from a mixed bacterial sample	ASP												

COURSE+P 1A1:P96	SLO	FA 2015	Spr 2016	FA 2016	Spr 2017	FA 2017	Spr 2018	FA 2018	Spr 2019	FA 2019	Spr 2020	FA 2020	Spr 2021	Spr 2015
2	perform a successful Gram stain	ASP												
3	identify cell shape and arrangement of a bacterial sample	ASP												
180 1	Define and distinguish between the Scientific method and other ways of knowing things							x						
2	understand the theory of organic evolution							x						
3	understand the importance of the sun's energy to life on earth							x						
198	**<Supervised Tutoring>: will be assessed when offered-- not currently being offered**													
1	Students will be able to recognize essential skills and content and apply them to a related Biology course.													
199	**<Special Projects>: will be assessed when offered-- not currently being offered**													
1	Students will be able to identify, examine, and assess a component in the field of Biology in a study of individualized content.													
215 1	Calculate the mean and standard deviation of a set of data	ASP	x											
2	Make and interpret the meaning of a histogram		x											
3	Understand the meaning of probability		x											
4	State the definition of a P-value		x											
5	Correctly use the term "statistically significant"		x											

COURSE+P 1A1:P96		SLO	FA 2015	Spr 2016	FA 2016	Spr 2017	FA 2017	Spr 2018	FA 2018	Spr 2019	FA 2019	Spr 2020	FA 2020	Spr 2021	Spr 2015
	6	Recognize the situations where different statistical tests covered in class are used		X											
230	1	Students will be able to describe and diagram the process of Iron uptake in Eukaryotic Cells							X						
	2	Students will be able to analyze an article from the Primary Literature and participate in a direct-discussion the data presented in the article							X						
		Enzyme Activity Lab Exercise													
	3	Students will collect and analyze qualitative data on the effect of pH on Sucrase activity.							X						
	4	Students will formulate general conclusions about enzyme activity and structure based on qualitative data.							X						
	5	Students will analyze quantitative data on the effect of Temperature on Amylase activity							X						
	6	Students will formulate general conclusions about enzyme activity and structure based on quantitative data.							X						
		Construction and Cloning of a Recombinant DNA Laboratory													
	7	Students will analyze plasmid vector and insert sequence size and restriction data and produce a composite map of the ligated construct	*												
	8	Students will create a flowchart of a written Transformation protocol and apply that protocol in Module 2.	*												
	9	Students will demonstrate an understanding of the role of Controls in Transformation protocols	*												

	SLO	FA 2015	Spr 2016	FA 2016	Spr 2017	FA 2017	Spr 2018	FA 2018	Spr 2019	FA 2019	Spr 2020	FA 2020	Spr 2021	Spr 2015
	Enzyme Activity Lab Exercise													
	1. Students will analyze quantitative data on the effect of Temperature on Amylase activity							x						
	2. Students will formulate general conclusions about enzyme activity and structure based on quantitative data.							x						
	Construction and Cloning of a Recombinant DNA Laboratory													
	1. Students will analyze plasmid vector and insert sequence size and restriction data and produce a composite map of the ligated construct							x						
	2. Students will create a flowchart of a written Transformation protocol							x						
	3. Students will demonstrate an understanding of the role of Controls in Transformation protocols							x						
240 1	Sketch and explain the cycle of nutrients in the ecosystem and flow of energy							x						
2	Outline the history of life on earth and sketch the tree of life, showing major evolutionary events;							x						
3	List and explain the functions of the major body systems in plants and animals and their role in homeostasis and metabolism							x						

	SLO	FA 2015	Spr 2016	FA 2016	Spr 2017	FA 2017	Spr 2018	FA 2018	Spr 2019	FA 2019	Spr 2020	FA 2020	Spr 2021	Spr 2015
4	Describe how evolution works by the process of natural selection and how this explains both the unity and diversity of life							x						
298	Selected Topics in Biology (Basic Skills): will be assessed when offered-- not currently being offered													
1	Students will be able to describe, distinguish and apply components of Biology within a specialized topic in the field of Biology													
299 A & B	Selected Topics in Biology (A-Associate Degree applicable; B-Baccalaureate-CSU transfer): will be assessed when offered-- not currently being offered													
1	Students will be able to describe, distinguish and apply components of Biology within a specialized topic in the field of Biology													

body temperature and endure long dive times and breath-holding events.