

PROGRAM REVIEW – CURRICULUM PACKET

2018-2019

PHYSICAL SCIENCE

This report includes course student learning outcome (cSLO) assessment summaries from 2015-16 to 2017-18.

Table 1. Course offerings per academic year from 2015-16 to 2018-19

Table 2. Course assessment status between 2015-16 and 2017-18

Table 3. cSLOs that were not assessed between 2015-16 and 2017-18

Table 4. cSLOs assessed and corresponding Data Evaluation

Table 5. cSLOs assessed and corresponding Data Planning

COURSE OFFERINGS

Table 1. Course offerings per academic year from 2015-16 to 2018-19

Course Name	2015-2016	2016-2017	2017-2018	2018-2019
PHSC G100	x	x	x	x
PHSC G100L	x	x	x	x

COURSE ASSESSMENT STATUS

Fully Assessed



Partially Assessed



No Assessment



Table 2. Course Assessment Status between 2015-16 and 2017-18

*No enrollment data between 2013-14 and 2018-19

Course Name	Total cSLOs	No. cSLOs Assessed	Assessment Status	Last Term Offered
PHSC G100	4	2 out of 4	Partially Assessed ↔	Spring 2019
PHSC G100L	4	1 out of 4	Partially Assessed ↔	Spring 2019

Table 3. cSLOs that were not assessed between 2015-16 and 2017-18

Course Name	cSLO Name	cSLO to Assessed
PHSC G100	cSLO 3	Demonstrate understanding of basic concepts dealing with chemical reactions.
PHSC G100	cSLO 4	Evaluate and explain various physical phenomenon (i.e. heat capacity, earthquakes, chemical reactivity, light), given appropriate laboratory equipment.
PHSC G100L	cSLO 1	Identify important discoveries in the fields of physics, chemistry, geology, and astronomy.
PHSC G100L	cSLO 2	Explain the underlying principles which govern the behavior of matter and energy.
PHSC G100L	cSLO 3	Demonstrate understanding of basic concepts dealing with chemical reactions.

DATA EVALUATION

Table 4. cSLOs assessed and corresponding Data Evaluation.

*Denotes historical cSLOs.

Course Name	cSLO	Semester Assessed	cSLO Data Evaluation
PHSC G100	cSLO 1	Spring 2016	Results show: • 48% of the students did not correctly answer the assessment question. This performance level is unacceptable. Students were exposed to the underlying principles of the formation of the solar system in lecture and in a related quiz question near the end of the semester.
PHSC G100	cSLO 1	Spring 2018	• My expectation was that students would achieve at least 75% plus correct class response. • 7 students answered with the D selection. This clearly shows a confusion on their part between modern view of continental and oceanic crust behavior and the early view of the movement of continents.

Course Name	cSLO	Semester Assessed	cSLO Data Evaluation
PHSC G100	cSLO 2	Spring 2017	-Students did not demonstrate an understanding of wave behavior. -My expectation was at least 75% plus for the final assessment. The specific concept was taught in lecture and in lab. In addition, the motion was discussed in both cases with students. A potential factor is that students are confusing a transverse wave as just up and down motion and not the propagation of a disturbance from one location to another: not withstanding their understanding of the wave velocity formula which was discussed.
PHSC G100	cSLO 2	Fall 2017	• Students did demonstrate an understanding of wave behavior. • My expectation was that students would achieve at least 75% plus correct class response.
PHSC G100L	cSLO 4	Spring 2016	Results show: • 83% of the students correctly answered the assessment question. This level of performance indicates that the students were successful in achieving the SLO.

DATA PLANNING

Table 5. cSLOs assessed and corresponding Data Planning.

*Denotes historical cSLOs.

Course Name	cSLO	Semester Assessed	cSLO Data Planning
PHSC G100	cSLO 1	Spring 2016	To improve student learning I plan to do the following: 1) Continue to emphasis in lecture the nature of the formation of the planets in our solar system. 2) Develop an in-class exercise that requires students to organize planets based on their physical characteristics.
PHSC G100	cSLO 1	Spring 2018	The correct answer to the SLO question was reviewed with students after the assessment. Students did not demonstrate an understanding of this basic geological concept. I was not able to re-test before the end of the semester due to a hospitalization. I plan to take make the following steps to change the curriculum: 1. Start with the modern concept of plate tectonics as reflected in volcanism and earthquake activity. 2. Challenge the students to think historically as to how Wegner might explain his evidence for continental drift and come to a similar conclusion as to the movement of continents.
PHSC G100	cSLO 2	Spring 2017	I will use this same SLO for Fall 2017. The curriculum will not change; however, I will seek a computer simulation that makes it clear that transverse/longitudinal wave motion moves energy from one point to another and is not affected by the amplitude of the wave. If none is available, I will develop my own simulation.
PHSC G100	cSLO 2	Fall 2017	There was an increase of 31% over the earlier Spring 2017 SLO assessment. I attribute this increase in understanding to both lecture and lab reinforcement of key concepts using the following: • A Phet Simulation computer wave simulation • Youtube video explaining how transverse/longitudinal wave motion moves energy from one point to another. This approach to teaching the concept and curriculum will not change.
PHSC G100L	cSLO 4	Spring 2016	No changes are planned to improve student learning.