Assessment: Assessment Unit Four Column

Fall 2017

El Camino: PLOs (NSC) - Biology

PLOs	*Assessment Method Description*	*Results*	*Actions*
PLO #3 Content Knowledge - Students will have a working knowledge of biological principles and a mastery of a broad set of factual biological knowledge concerning ecology, evolution and cells. **PLO Status:** Active **PLO Assessment Cycle:** 2017-18 (Fall 2017), 2018-19 (Fall 2018) **Input Date:** 11/12/2013 **Inactive Date:** **Comments:**	**Multiple Assessments -** Evaluation of content knowledge was assessed primarily through the addition of 5 common questions added to a test or quiz in each class. Our majors course assessed using written essay or short answer questions to evaluate student achievement. **Standard and Rubric:** Assessments using the 5 question method were scored and evaluated based on the number of questions correct out of 5. Most courses established 70% of the students scoring a 3 out of 5 or higher as the minimum standard of achievement. Courses that used a written response set a minimum standard of 70% of the students scoring a minimum of 70% on the rubric. Specific questions and assessments are found with each course SLO. **Additional Comments:** Content Knowledge evaluated over a broad range of courses were connected to two important Biological principles, Mitosis or Energy Flow. Two courses that teach very specific areas of Biology selected content knowledge	**Semester of Current Assessment:** 2017-18 (Fall 2017) **Standard Met:** Standard Not Met A total of 764 students were assessed in 12 different Biology courses. Eleven courses reported successful achievement of the standards set. One course, Bio 10 did not achieve the standard. Because this course represents the largest number of students in the program at 48% of the students assessed, overall the program did not meet the standard. While some courses are broad explorations of Fundamental Biological principles such as Bio 10 or Majors Sequence Bio 101, 102, and 103. Other courses focus on more specific topics to explore Biological principles, such as Botany, Marine Biology, or Zoology. Standards were met in 10 of the 12 courses assessed in the Biology Program. Fundamentals of Biology 10 and Ecology are both non-majors courses. Students in these courses vary greatly in their prior experience with Biology. While each course achieved standards at various levels of success, there were some common areas for improvement across most courses. One common theme was the need to use more visual support to illustrate difficult concepts. For courses evaluating Mitosis standards, instructors discussed inclusion of animations and videos to help students understand that mitosis is a process, sequence of events, rather than distinct separate events suggested by photos and fixed slides. Another common area of improvement discussed among instructors showed that students have difficulty understanding the chemical symbols used to communicate	**Action:** One common theme was the need to use more visual support to illustrate difficult concepts. For courses evaluating Mitosis standards, instructors discussed inclusion of animations and videos to help students understand that mitosis is a process, sequence of events, rather than distinct separate events suggested by photos and fixed slides. Another common area of improvement discussed among instructors showed that students have difficulty understanding the chemical symbols used to communicate important biological molecules in the discussions of biochemical pathways involving materials and energy flow. This is particularly difficult for students with limited science background. Instructors are looking for ways to make the connection between the chemical symbolic language in these topics and the vocabulary and imagery clearer to students.

PLOs	Assessment Method Description	Results	Actions
	appropriate to the each course, Gene Expression and Dichotomous Keying. **Related Documents:** Mitosis Assessment 2017.doc BIO 8 Energy Flow SLO 2017.docx	important biological molecules in the discussions of biochemical pathways involving materials and energy flow. This is particularly difficult for students with limited science background. Instructors are looking for ways to make the connection between the chemical symbolic language in these topics and the vocabulary and imagery clearer to students. (02/26/2018) **Faculty Assessment Leader:** Nancy Freeman **Faculty Contributing to Assessment:** Samual Lee, Bryan Carey, Karla Villatoro, Laurie Len, Sanda Oswald, Chi Lew, Theresa Palos, Darcie Descalzo, Jessica Padilla, Alexa Dyess, **Courses Associated with PLO Assessment:** Bio 10, Bio 102, Bio 10 Honors, Bio 11, Bio 8, Bio 12, Bio 15, Bio 17, Bio 18, Bio 101, Bio 16 and Bio 103	(02/27/2018) **Action Category:** Teaching Strategies

Assessment: Assessment Unit Four Column

Fall 2017

El Camino: PLOs (NSC) - Environmental Horticulture

PLOs	*Assessment Method Description*	*Results*	*Actions*
PLO #2 Selection based on Criteria - Upon completion of their study of course materials for the Environmental Horticulture Program, the successful student will be able to select plant materials for a given landscape based on water requirements, soil type, pest and disease resistance, growth habits, and design requirements. **PLO Status:** Active **PLO Assessment Cycle:** 2017-18 (Fall 2017) **Input Date:** 11/12/2013 **Inactive Date:** **Comments:** Per Russell Serr's 11.08.2016 e-mail; program may be discontinued.			