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STUDENT LEARNING OUTCOMES

College:

Columbia College

Select the Group of Columbia College:

Student Learning

Select the Unit of Student Learning:

Arts and Sciences

Select the Program of Arts and Sciences:

Biological and Physical Sciences

Select the Course of Biological and Physical Sciences:

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Connections:

- College SLO #1 (Critical and Creative Thinking)
- College SLO #2 (Civic, Environment, and Global awareness)
- College SLO #3 (Individual and collective responsibility)
- College SLO #4 (Mastery of relevant theory and practice)

[College SLO's](#)

Select an SLO type:

- Course
- Program
- Award
- College-wide

Special Circumstances (flagged in report)

This is not the primary SLO project: [Make Primary](#)
[Delete](#) (WARNING: Delete will remove this SLO project from the list.)

SLO Map:Columbia College->Student Learning->Arts and Sciences->Biological and Physical Sciences

Date Started: 4/9/2013

Semester Started: 2012CFA

Last Updated: 10/7/2013

Originator: torokm

Status: Active

Progress: Assessment has led to implementing changes

Version: 1.0

Title: Biological and Physical Sciences

College Wide SLO:

SLO Narrative:

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Purpose

Biological and Physical Sciences courses at Columbia College include Biological Sciences, Chemistry, Earth Sciences and Physics. Students pursuing coursework in these subjects will benefit from a rich and in-depth science experience that can lead to successful transfer to a four-year institution as well as meeting general education requirements for an AS degree.

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SLOs:

SLO #1)

Students will learn how to plan a program of data gathering and analysis that employs modern scientific procedures and the use of modern technology.

Assessment Tool:

Within the program all courses with a lab require either a lab notebook or completion of lab reports. Any student that successfully completes a lab course will have gathered and analyzed data while employing modern scientific procedures and technology. A student survey will be given to assess students' ability to plan a program of data gathering and analysis that employs modern scientific procedures and the use of modern technology.

Analysis of Assessment Results:

All students that successfully complete one or more laboratory courses in the program will have accomplished this SLO. Additionally, the survey provides data on the assessment of this SLO.

Add New Assessment Tool:

Add New Analysis:

SLO #2)

Student will use acquired knowledge of biology and physical science to make informed decisions about problems in society and public policy.

Assessment Tool:

Students completed a survey that asked them about their ability to make informed decisions about problems in society and public policy. Answers on a scale of 1 to 4. 1=strongly disagree, 4=strongly agree.

- 1) Has this course improved your ability to use scientific knowledge to make informed decisions about problems in society or public policy? strongly disagree, disagree, agree, strongly agree
- 2) Give an example of a societal issue that would be applicable.

Analysis of Assessment Results:

2012- Survey results are from Erin, Joe, Jeff, Micha, Jack, Brenda (classes surveyed)- bio 17, bio 10, bio 6, chem 1a, chem 1b, chem 10, esc 5, esc 22, esc 30, esc 40
Miller results (bio 17, 6 averaged) average 3.42
Erin bio 17 average 2.97, bio 10 3.57
Joe (all chem classes averaged) 2.96

Add New Assessment Tool:

Add New Analysis:

SLO #3)

Students will develop social and professional skills needed to be successful in the modern work place (e.g. communications, working in groups, working with technology).

Assessment As measured by their answer to a survey questions:

- Tool:**
- 1) Because of your experience in Columbia College science courses have you developed the social skills needed to be successful in the modern work place? (e.g. communication, working in groups) strongly disagree, disagree, agree, strongly agree
 - 2) Because of your experience in Columbia College science courses have you developed the professional skills needed to be successful in the modern work place? (e.g. working with technology, data analysis) strongly disagree, disagree, agree, strongly agree

Answers on a scale of 1 to 4. 1=strongly disagree, 4=strongly agree.

Analysis of Assessment Results: 2012- Survey results are from Erin, Joe, Jeff, Micha, Jack, Brenda (classes surveyed)- bio 17, bio 10, bio 6, chem 1a, chem 1b, chem 10, esc 5, esc 22, esc 30, esc 40 miller (average bio 17, 6) Q1 -3.18, Q 2- 3.18
 Erin Bio 17 Q1- 3.052, Q2 -3, bio 10 Q1-3.23, Q2 3.18
 Joe (all chem averaged) Q1-3.18, Q2- 3.15

Add New Assessment Tool:

Add New Analysis:

Add New SLO)

Assessment Tool:

Analysis of Assessment Results:

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Notes to Self/Next Steps:

Faculty should meet in the Fall 2013 to discuss the results of the survey.

Improvements Achieved:

- 2) Faculty met in the Spring 2013. We discussed our five-year plan in regard to personnel, facilities, and FTEs.

- 3) The results of the 4-question student assessment given in all science-related programs led to increased classroom instruction and contextualized activities related to the types of workplace skills needed as they relate to biological and physical sciences related careers. (Example: Students research and provide a brief oral presentation of research conducted in the field. The focus and discussion is analyzing the validity and implications of the research—similar to research careers in biological and physical sciences.)

- 1) Science faculty met and designed a survey that inquired students' abilities and perspectives regarding the scientific method and the interface between society and science. EN 2012 Fall

- 4)

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