**General Education Annual Course Assessment Form**

Course Number/Title: GEOL 004L – Planet Earth Laboratory  
GE Area: B3

Results reported for AY: 2014-2015  
# of sections: 14  
# of instructors: 8

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Department Chair: Jonathan Miller  
College: Science

**Instructions:** Each year, the department will prepare a brief (two page maximum) report that documents the assessment of the course during the year. This report will be **electronically submitted**, by the department chair, to the Office of Undergraduate Studies, with an electronic copy to the home college by September 1 of the following academic year.

**Part 1**

To be completed by the course coordinator:

(1) What SLO(s) were assessed for the course during the AY?

**SLO #3:** Students should be able to use the methods of science, in which quantitative, analytical reasoning techniques are used.

(2) What were the results of the assessment of this course? What were the lessons learned from the assessment?

Since the last assessment of SLO3 for Geology 4L, several labs have been revised to include more quantitative analysis. This report focuses on modifications to Lab 3: “Atmospheric CO$_2$ Levels, Climate Change and Sea Level Rise.” The following activities have been added to this exercise: 1) serial dilutions of food coloring to illustrate parts per million, the unit of measurement for atmospheric concentrations of CO$_2$ and 2) calculation of the magnitude of sea level rise that would result from melting of the Greenland ice sheet. A related post-lab web assignment asks students to measure their ecological footprint using an online calculator and to interpret graphs which show what percentages of their footprint are associated with food choices, shelter, transportation, etc.

Metzger interviewed a subset of Geology 4L instructors (all of whom are graduates students in the Department of Geology) to assess the degree to which students are able to successfully complete these exercises. Instructors estimated that about 75% of their students earned a “B” or better on Lab 3, but some students required assistance with the calculations.

(3) What modifications to the course, or its assessment activities or schedule, are planned for the upcoming year? (If no modifications are planned, the course coordinator should indicate this.)

Geology 4L labs typically enroll students with a wide range of quantitative and analytical capabilities and some struggle with fundamental skills such as percentages, decimals and conversion of units. Metzger will work with the 4L lab instructors to develop worked examples of calculations needed for Lab 3 (and other 4L labs) that will be presented before students begin the lab.
Part 2

To be completed by the department chair (with input from course coordinator as appropriate):

(4) Are all sections of the course still aligned with the area Goals, Student Learning Objectives (SLOs), Content, Support, and Assessment? If they are not, what actions are planned?

All sections are still aligned with Area B3 goals and student learning objectives. No action is planned.

(5) If this course is in a GE Area with a stated enrollment limit (Areas A1, A2, A3, C2, D1, R, S, V, & Z), please indicate how oral presentations will be evaluated with larger sections (Area A1), or how practice and revisions in writing will be addressed with larger sections, particularly how students are receiving thorough feedback on the writing which accounts for the minimum word count in this GE category (Areas A2, A3, C2, D1, R, S, V, & Z) and, for the writing intensive courses (A2, A3, and Z), documentation that the students are meeting the GE SLOs for writing.

Not applicable.