**General Education Annual Course Assessment Form**

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

Results reported for AY: 2013-2014  
# of sections: 18  
# of instructors: 10

Course Coordinator: Ellen Metzger  
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Department Chair: Robert 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 2: Students should be able to demonstrate ways in which science influences and is influenced by complex societies, including political and moral issues.

This SLO was assessed by reviewing Lab 4: Climate Change, in which students interpret graphs showing short- and long-term increases in atmospheric concentrations of carbon dioxide and methane. Geology 4L lab instructors reported that although students often express an interest in climate change and generally earn a B or better on this lab, they typically do not exhibit a high level of engagement in this exercise. This may be due in part to the fact the exercise does not make explicit connections with the environmental, social and economic impacts of human-caused climate change and does not relate the problem of rising greenhouse gas emissions to students’ everyday activities.

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

Based on extensive discussion with the 4L lab instructors, this lab exercise was revised and expanded to include 1) a hands-on activity in which students perform a serial dilution of food coloring in water to investigate the concept of parts per million and relate it to atmospheric concentrations of CO2 and 2) an investigation of sea level rise due to melting glaciers.

In an accompanying Web-based assignment, students further investigate the impacts of climate change and calculate their personal ecological footprint. They are then asked to reflect upon what actions they could take to reduce it their individual footprint.

These modifications are part of Metzger’s ongoing revision of the 4L lab exercises to include more examples of the interconnectedness of Earth’s atmosphere, oceans, and living things, make more
connections to students’ everyday lives, and engage students in more hands-on investigations. Student performance on the revised lab will be assessed on the basis of average grades earned for this assignment. Discussions with the 4L instructors will be used to gain a qualitative measure of whether the revisions led to greater student engagement.

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.