General Education Annual Course Assessment Form

Course Number/Title Geol 103; Earth & the Environment  GE Area __R___________________________

Results reported for AY 2012-13 # of sections ____8______ # of instructors ___3________

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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 1: Students can demonstrate an understanding of the methods and limits of scientific investigation.

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

   a) Students were 92% successful in describing methods used in scientific investigations.
   b) Students were 80% successful in relating limitations of scientific investigation.

   The aggregated results were gleaned from instructors’ test items, written work, Webquests, and collaborative student presentations. For bullet point “a,” students were charged with examining changing views of our planet based on satellite coverage, Space Shuttle images, and sophisticated computers that allow increasingly more complicated models of global processes. For “b,” Students were asked to describe how the evolution of plate tectonics theory reflects testing and rejecting of hypotheses and revising of hypotheses in response to the acquisition of new data.

   All instructors’ data show that students were well-versed in identifying components of the scientific method (i.e., observation/measurement; formulating and testing a hypothesis; devising a rational conclusion, etc.), but were less able to explain iterative nature of science. We collectively agreed that students need more practice in conducting their own (individual or small group) inquiry-based assignments. With application, we believe that students will master the concept that science is not a one-way process that always leads to a definitive conclusion. Since Geology 103 is required by multiple subject teaching credential programs, we hope that future sections will allow for more modeling/application of scientific investigations by the students: especially since our prospective teachers will need to teach science more as a process, rather than a series of facts, as we transition from the California State Science Standards to the Next Generation Science Standards. Keeping Geol 103 class sizes low is one way to achieve this goal.

(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.) Internet resources allow for enhanced student research opportunities, and so on the short term,
we will include more Web-based assignments for students to conduct their own scientific investigations. These could be accomplished on students’ own time, which will alleviate some of the burden to conduct such activities in class. In the future, capping the enrollment of Geology 103 would greatly increase the prospects for hands-on activities, which can be discussed in real-time. We believe that instructor input would be a very helpful formative assessment technique toward this end.

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 R goals and student learning objectives. No action is planned.