General Education Annual Course Assessment Form

Course Number/Title: GEOL 112 GE Area: R

Results reported for AY: 2013-2014 # of sections: 4 # of instructors: 2

Course Coordinator: Donald Reed E-mail: dreed@sjsu.edu

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 will be able to distinguish science from pseudo-science.

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

Description of Assessment in Online and Hybrid Sections – Instructor Reed

Following an online exercise on learning outcome #2, students searched YouTube to identify examples of science and pseudoscience in scientific earthquake forecasting versus earthquake prediction. They then described these examples in terms of the identifying characteristics of science and pseudoscience in a learning group discussion with their peers.

89 out of 94 students passed the class, with a D or higher grade. Of the passing grades, 76 students achieved learning outcome #2 by earning 70% or higher on the content portion of the required online discussion, for an outcome #2 achievement rate of 85.4%.

Unfortunately, 13 of the 89 students, listed above, did not participate in this assignment and therefore did not achieve the learning outcome; 100% of the students who participated in the assignment achieved the learning outcome.

A follow up assignment, involving an essay describing the scientific characteristics of earthquake forecasting versus the problems with earthquake prediction, resulted in 95.5% of the students achieving learning outcome #2.

Overall, students performed very well on the essay assignment in which they identified scientific methods of earthquake forecasting. Participation in the initial learning discussion group was less than expected, largely because it was worth only 1.5% of their overall grade in the course and
occurred in the week before the Thanksgiving Holiday break. The essay assignment, worth 7% of their overall grade, had a much higher participation rate, and therefore experienced a higher learning outcome #2 achievement rate.

**Description of Assessment in Classroom Sections – Instructor Shostak**

SLO #2 was assessed using scientific and non-scientific (pseudoscientific) methods of predicting earthquakes.

After presenting criteria for a scientific method, how to recognize a non-scientific method, and examples of both in lecture, the class was divided into working groups to discuss a short list of possible methods and to determine which, if any, met the criteria for a scientific method. A full-class discussion followed the group work.

The criterion for achieving the outcome was a question on the final exam on whether a particular method of predicting earthquakes was scientific—and why or why not.

The passing percentage for the assessment question, and therefore the learning outcome #2 achievement rate, was 79%.

(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.)**

The points available in the learning group discussion will be increased and therefore comprise a higher percentage of the overall grade to encourage all of the students to participate in this assignment.

**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.