**General Education Annual Course Assessment Form**

Course Number/Title:  **GEOL 105 General Oceanography**  
GE Area: **R Earth & Environment**

Results reported for AY _2014-2015_  
# of sections ____2_____  
# of instructors ____1_____

Course Coordinator: ___Donald Reed______________  
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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 to** <[curriculum@sjsu.edu](mailto:curriculum@sjsu.edu)>, by the department chair, to the Office of Undergraduate Studies, with an electronic copy to the home college by October 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 are able to apply a scientific approach to answer questions about the earth and environment

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

Over the last two weeks of the class, each student compiles and shares with their learning group, the top ten scientific questions they would study, if they were a professional research oceanographer. Students then have access to 70-80 scientific topics within their group, one of which will be refined by each student into a precise, and testable hypothesis or scientific question to study. Feedback is given to each student after submitting each of these assignments, both by the instructor and a member of their learning group. Each student is then taken through the process of designing a realistic scientific study to address their chosen hypothesis or question, according to the guidelines of a “request for proposals” in the final exam instructions. Each student then submits a 100 word-long abstract outlining the question to be addressed, the scientific background, the proposed research project, and the significance of the proposed work, which is then reviewed by the instructor and another student in their learning group. Students then use this feedback to write a 900-1000 word-long research grant proposal describing their project, which is then submitted online to the “Don Reed Trust for Ocean Science” at the “take home” final exam.

By undertaking this assignment, students participate in one of the cornerstones of scientific investigation by first identifying a topic to study, formulating what is not known about the topic into a precise, and testable, scientific question or hypothesis to study, and then designing a research project that, if carried to its conclusion, has the potential to provide a valid test of the hypothesis by acquiring verifiable evidence through experimentation or a field-based project.
Students do very well on this project as 65 of the 68 students, or 96% of the students who submitted the final exam achieved a “C” or better grade and therefore achieved the learning outcome. Three students did not achieve the outcome, either because their work did not present original research or contained significant errors in scientific understanding. Two other students did not submit the final exam.

(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.)

This has been a highly successful assignment in this class over a period of more than 20 years. Many students say that it is their favorite part of the course because they can apply what they learned through the entire semester in a novel and creative manner, while still maintaining the standard of high quality science. A recent change in the “request for proposals” is that proposed projects that must address some aspect of the ocean and climate change.

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?

Yes. No actions are 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.

All sections taught are below the enrollment limit for Area R courses and students receive ample feedback on writing from multiple writing assignments. On each assignment, instructors provide detailed editorial and grammatical corrections, as well as general comments related to a grading rubric provided to each student.