



2008-2009 Assessment Plan Report

PROGRAM ASSESSMENT REPORT AY 2008-2009

Report Date: May 18, 2009

School/College: Arts & Sciences

Department/Program: Dept. of Environmental Science, B.Sc. in Environmental Science

Person completing the Report: William Karney, Chair

1. **Overview Statement:** Briefly summarize the assessment activities that were undertaken this academic year, indicating:
 - a. which program learning outcomes were assessed this year.
 - b. who in your department/program was involved in the assessment of the above learning outcomes

The following program learning outcomes were assessed this year:

Outcome 1a: Explain the scientific basis for environmental problems and potential protection or solutions to these problems.

Outcome 3a: Design and execute experiments involving environmental sampling combined with field and laboratory analysis.

The following faculty members participated in the assessment of learning outcomes 1a, 2a, and 3a during 2008-2009: William Karney, Jack Lendvay, and John Callaway.

2. Please Answer the Following Questions for Each of the Student Outcomes Assessed:

a. What did you do?

Describe clearly and concisely how you assessed the learning outcomes that were evaluated this year (e.g., measures, research methods, etc.). [please use bullet points to answer this question]

Outcome 1a, Assessed in ENVS 110 majors section

For 110, selected 5 questions related to outcome 1a. All were multiple choice, and together accounted for 10% of the total exam score. Taken together, these questions were considered to address outcome 1a. All 8 ENVS majors in the class were assessed. The average total score was 7.5 out of 10 points. Raw scores of 0-5, 6-8, and 9-10 (out of 10 points possible) were assigned assessment scores of 1, 2, and 3, respectively, with respect to the rubric for the outcome. The average assessment score was 2.25 out of 3. One of the 8 students was "unacceptable", 4 were "acceptable", and 3 of 8 were "exemplary".

Results for ENVS 110 majors section, Outcome 1a: average assessment score = 2.25 out of 3



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Outcome 1a, Assessed in ENVS 210

For 210, selected 2 questions related to outcome 1a. Both were broad essay questions designed to cover broad issues in the course, and together accounted for 1/3 of the total exam score. All 9 ENVS majors in the class were assessed. The average score on these two questions was 77% for the ENVS majors. Scores of 0-50%, 60-80%, and 90-100% were assigned assessment scores of 1, 2, and 3, respectively, with respect to the rubric for the outcome. The average assessment score was 2.22 out of 3. None of the 9 students was "unacceptable", 7 were "acceptable", and 2 of 8 were "exemplary".

Results for ENVS 210, Outcome 1a: average assessment score = 2.22 out of 3

Outcome 1a, Assessed in ENVS 212

From final exam for fall 2008, chose questions 20c (4 pts) and 33 (6 pts). Used final exams for all ENVS majors in the class (total of 10 students, out of a class of 20). For each student's exam, added scores for questions 20c and 33 (10 points possible). Used the total points for each student to derive an "assessment score" of 1, 2, or 3, according to the rubric. Raw scores of 0-5, 6-8, and 9-10 (out of 10 points possible) were assigned assessment scores of 1, 2, and 3, respectively, with respect to the rubric for the outcome.

Results for ENVS 212, Outcome 1a: average assessment score = 2.70 out of 3

Outcome 3a, Assessed in ENVS 212

Three group projects were evaluated. In these projects, teams of students conceived, designed, and executed an experiment. Evaluation of each project was based on the lab notebook of one of the students in the group, and on the group's poster presentation. Two groups received an assessment score of 1, while one group received an assessment score of 2.

Results for ENVS 212, Outcome 3a: average assessment score = 1.33 out of 3

Outcome 3a, Assessed in ENVS 410

The group final report for the class was evaluated with respect to the rubric. It was given an assessment score of 3 (exemplary).

Results for ENVS 410, Outcome 3a: assessment score = 3 out of 3

b. What did the faculty in the department or program learn?

Summarize your findings and conclusions as a result of the assessment indicating strengths and weaknesses in student learning demonstrated by this assessment.

For Outcome 1a, results were positive in all three courses evaluated, with average assessment scores all above 2.0 (out of 3). In other words, student performance was deemed acceptable.

For Outcome 3a, results were mixed. Students in ENVS 410 performed well, with an "exemplary" rating, whereas students' performance in ENVS 212 was, on average, unacceptable. In ENVS 212, weaknesses were noted in students' ability to plan appropriate controls/blanks, and to allow for sufficient replicate measurements.



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c. **What will be done differently as a result of what was learned?**

Discuss how courses and/or curricula will be changed to improve student learning as a result of the assessment. Include a discussion of how the faculty will help students overcome their weaknesses and improve their strengths.

Even though ENVS 212 is one of the first courses in which students design their own experiment or project, we intend to improve performance in this course with respect to Outcome 3a. First, we will allow more time for planning of the project, and increase instructor feedback. In addition, we may require students, earlier in the semester, to design a component of an experiment. This will give them initial experience in this area.

3. **Attach a copy of the components of the department/program assessment plan that have been modified since its initial submission:**
- a. Program Mission
 - b. Program Learning Goals
 - c. Program Learning Outcomes
 - d. Program Learning Rubrics aligned with outcomes
 - e. Curriculum map that shows the courses that pertain to the outcome

Please return to: Provost Office by June 1, 2009

You can send your replies as either a Word attachment (to: marin@usfca.edu) or as a hard copy to: Provost Office, Lone Mountain Rossi Wing 4th floor.

If you have any questions, please contact: William Murry, Director of Institutional Assessment (wmurry@usfca.edu or x5486).