

Annual Report for Assessment of Outcomes
**ESR SAC: Outcomes – Community and Environmental Responsibility &
Communication Submitted: June 2011**

To complete this Assessment Report, please address the questions below, and send to learningassessment@pcc.edu by June 20, 2011; subject line: REPORT Assessment [SAC]

1. Describe changes that have been implemented towards improving students' attainment of outcomes that resulted from outcome assessments carried out in the previous academic year.

(Information provided here may be referenced, inserted into or summarized in Program Review 2.C.iii (for Core Outcomes) or 6.B.iii (for CTE Degree and Certificate outcomes).

Yes – for ESR 201 I modified the approach to evaluating an environmental issue during winter of 2011, based on winter 2010 Critical Thinking Core Outcome Assessment. The evaluation for winter 2011 showed student improvement in evaluating their environmental problems.

2. Identify the outcomes assessed this year, and describe the methods used.

What were the results of the assessment (i.e., what did you learn about how well students are meeting the outcomes)?

(Information provided here may be referenced, inserted into or summarized in Program Review 2.C.i& ii (for Core Outcomes) or 6.B.i & ii (for CTE Degree and Certificate outcomes)

- a. Describe the method(s) you used.

Two outcomes were assessed this year. Critical thinking ; ESR 201 was reassessed this year, using similar rubric as last year and ESR 202 was assessed for the Community and Environmental Responsibility Outcome and Communication (for both ESR 201 and ESR 202)

Course Description ESR 202:

ESR 202 the students spend six weeks evaluating an urban watershed, making use of established field sampling techniques, reviewing scientific literature, evaluating field collected data, interpreting collected data, and writing a synopsis of the class study. Students work collaboratively and individually in putting together their final reports. Courses that are taken as a prerequisite to ESR 202, are preparatory for evaluation of the urban watershed. The student's final reports are written based on the Council of Scientific Editors (CSE) format. During the watershed evaluation the students use the Scientific Method plus critical thinking skills to develop their final report.

Esr202 students were assessed on their watershed field project (see below):

Assessment plan ESR 202 projects (Community and Environmental Responsibility)

We used a scale 1-4 for each of the following categories to assess the final project.

- A) Identify the problems associated with urban streams – both at a regional and national perspective
- B) Be able to assess the assessment techniques most often used to evaluate streams and watersheds in urban settings.
- C) Integrate the results (data) of the class project and interpret the results for applications to urban streams and compare our data to other urban streams studies.
- D) Apply the concept of Biotic Integrity to impaired urban streams and apply known restoration techniques (incorporating social responses to restoration).
- E) Make recommendations for restoration relative to human impacts of urban streams.

Assessment plan ESR 202 projects (Communication))

We used a scale 1-4 for each of the following categories to assess the final project. These were based on formatting report using the CSE methodology.

- F) Communicates and conveys complex ideas and thoughts in a clear and coherent manner.
- G) Communicates ideas using references, figures and tables of data in a technically proper manner based on the Council of Science Editors (CSE) guidelines.

b. Results: What did you learn?

How well did your students do?

The students completed a class project of evaluating the physical, chemical and biological characteristics of a heavily urbanized watershed (Biotic Integrity). The watershed chosen is Bronson Creek watershed, a tributary of the Tualatin River.

The class, after sampling for 6 weeks – evaluated the Biotic Integrity of Bronson Creek. They also evaluated how stream biotic integrity depends upon our environmental responsibilities and how as a society we benefit from healthy urban streams. Part of their report integrated student recommended restoration within the watershed.

The students worked as teams throughout the term. The students did very well in their evaluations; each individual student took the entire class data set and wrote a rather extensive evaluation of the data.

The grading rubric was scaled 1 – 4 (1= emerging, 2-3 developing and 4 mastering). The rubric had 7 learning objectives, 4 based on paper content, 2 based on communication using the scientific format.

The average student score was 3 out of 4.

Do the assessment results match your aspirations for your students?

Yes my aspirations were met for the most part. I want to see an increase in student grades next year. The report was very structured and for the most part the students follow the correct format.

3. Did your assessment indicate any areas or aspects in which student achievement could be better?

Identify any changes that should, as a result of this assessment, be implemented towards improving students' attainment of outcomes.

Yes, two areas come to mind. The students need to better understand the Council of Biological Editors format for literature citations both in text and as a literature cited section at the end of their reports. I will work on improving my communications next fall.

Many students were able to apply their knowledge as developed over the term and apply it to their ideas on restoring Bronson Creek, but they need to better understand these techniques – relative to time input, societal expectations and inherent costs. In order for the faculty to elicit a better understanding of the intricacies of watershed restoration I will modify my course outline. This was an important part of this particular outcome and I plan on developing a new lecture along with using published DVD's and perhaps a field trip to some more restorations sites. I will make use of my government connections so that either an ODEQ or a Clean Water Services field scientist will lead the trip.

The ESR 202 course (Problem Solving: Quantitative Methods) will continue to be modified over the next few years. The instructors (Tom Robertson and Kevin Lien) have modified the course to “fine tune” students expectations and understanding of course requirements. The most important single change has been to move from a single project report due at the end of the term, to a “stepped” series of units or modules. The units or modules are portions of their term long projects with the first unit being written using the scientific format, with limited but “packaged data” to a second unit with more data added to the first units' data and a third unit which is comprehensive for all data collected. Lectures have been and will be continuously modified to focus on those skills and concepts crucial to a successful final report. Student writing and data comprehension for the final report has noticeably improved; students seem less confused and the faculty feels there was a substantial improvement in the quality of the final reports. This was reflected in a higher overall class grade average this year and continual changes will be evaluated next year.

(If your assessment was scored in some way, it would be helpful to report some of that information. Scores that can be taken apart into meaningful components are often helpful in determining areas that might need attention.) . [*See above evaluation discussion*](#)