Annual Assessment Plan

Academic Quarters, Fall 2014, Winter 2015 and Spring 2015

Department of Environmental Sciences

Assessment Coordinator: John Rybczyk

Departmental Mission: To educate students through engagement across a breadth of environmental sciences; To conduct basic and applied research that expands knowledge about the environment; To disseminate knowledge about the environment in service of the public good

Department Student Learning Goals: Upon graduation, Department majors will be able to:

1. Apply quantitative skills to environmental issues
2. Apply critical thinking (analytical) skills to environmental issues
3. Write and speak effectively to professional and lay audiences about issues in the field
4. Use theoretical knowledge of environmental sciences in real world applications
5. Incorporate multiple disciplines into environmental sciences

Student Learning Goals Assessed This Year

<table>
<thead>
<tr>
<th>Assessment Measures</th>
<th>Student Learning Goals Assessed</th>
<th>Outcomes</th>
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<tr>
<td>Where appropriate change the pre-requisites for ESCI 400 levels courses to include Biostatistics (ESCI 340), which would allow for more practice with biostatistics in those classes.</td>
<td>1</td>
<td>Seven 400 level courses now require ESCI 340 as a pre-requisite (see discussion below). This is an increase from only two courses that explicitly listed 340 as a pre-requisite in 2012.</td>
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Changes based on Spring 2013 through Winter 2013 Assessment:

Based on the results of the previous assessment and subsequent discussions, the faculty identified Goal 1: Quantitative skills as the one to focus on in the upcoming Academic Year (2014/2015). Specifically, the faculty agreed to, where appropriate, change the pre-requisites for ESCI 400 levels courses to include Biostatistics (ESCI 340). Embodied in this would be the inclusion of assignments and labs, which would allow for more practice with biostatistics in those classes.
As a result, seven 400 level courses now require 340 as a prerequisite and include the practice of statistical techniques (through ANOVA), in the lab or classroom, including, ESCI 407 Forest Ecology, 423 Past Environments of the Pacific Northwest, 435 Landscape Ecology, 440 Wetlands Ecology, 463 Wetlands for Wastewater Treatment, 492 Climate Change, and 497Y Plant and Soil Interactions. This is an increase from only 2 courses in 2012.

**Changes based on current assessment findings:**

1) As a result of our emphasis on quantitative skills (making statistics a pre-requisite for advanced courses in particular) and the near doubling of the number of students in our department over the past decade, we found that some of our incoming ESCI student were not able to take ESCI 340 in their first or second quarter (as evidenced by long waiting lists for 340). We have begun offering additional sections of ESCI 340 (offered up to four times per semester), so that every student can take the course early in their academic career.

2) We unified the department’s statistical offerings such that all stats courses are taught using open source R. This ensures a common ground for advanced courses.