Department: Biology

Assessment Committee: Deb Donovan

Departmental Mission: The mission of the Biology Department is to provide an outstanding learning environment that integrates education, scholarship, and service in order to actively engage students in the biological sciences and foster their development as lifelong learners. Successful graduates of our Department will understand fundamental biological principles in depth, will have laboratory and field skills to answer biological questions, will have enhanced critical thinking and quantitative skills, will be able to communicate precisely and analytically in written and oral forms, and will be able to engage independently and collaboratively to be thoughtful and productive contributors to society.

Departmental Student Learning Outcomes: Upon graduation, majors will:

1. Understand and apply fundamental biological principles from the major areas of biology (ecology, genetics, evolution, cell and molecular biology, and organismal biology).
2. Acquire in-depth knowledge from the major areas of biology and be able to integrate principles from these areas.
3. Acquire laboratory and field skills necessary to answer biological questions.
4. Develop enhanced critical thinking skills.
5. Develop effective quantitative reasoning skills.
6. Communicate precisely and analytically in written and oral forms.
7. Engage independently and collaboratively in the scientific process.
Student Learning Outcomes Assessed This Year:

<table>
<thead>
<tr>
<th>Assessment Measures</th>
<th>SLO's Assessed</th>
<th>Use of the Information</th>
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<tbody>
<tr>
<td>Quizzes and exams in core and breadth courses, performance on lab exercises</td>
<td>5</td>
<td>Two faculty meetings were devoted to assessment at the end of the 2011-2012 academic year. We briefly reviewed two years’ worth of data collected about all of our Student Learning Outcomes and our Course Outcomes. Faculty decided to focus on SLO 5 as an important learning outcome that our students struggle with.</td>
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<td>Faculty survey of students’ quantitative skills</td>
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<td>Results from the faculty survey indicated that we think our students struggle with several critical skills including (but not limited to): manipulating exponents; interpreting graphical information; manipulating fractions, proportions, and percentages; and understanding the size of numbers.</td>
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Changes Based on Assessment
In the upcoming year, we will focus the quantitative skills of students enrolled in Biol 205 (Introduction to Cellular and Molecular Biology). We plan to develop pre- and post-assessments targeting three of the most critical skills (identified by the faculty) then integrate practice of these skills into the classes. Student progress will be monitored via the pre- and post-assessments. We hope that the interventions found to be effective in this course can be extended to other core and breadth courses.