Degree/Certificate: BAE in Biology/Endorsement in Biology

Major/Option: Biology
Submitted by: Heather McKean
Date: Oct. 31, 2013

Part I – Program SLO Assessment Report for 2012-13

Part I – for the 2012-13 academic year: Except for the formatting, this section nearly identical to previous years’ templates for the Program SLO Assessment reports. Because we have begun asking Deans to create College-Level Summary Reports annually, the template has been slightly modified for a) clarity for Chairs and Directors, and b) a closer fit with what the Deans and Associate Deans are being asked to report.

SLO I:

1. Student Learning Outcome I: Create a community of diverse learners who construct meaning from their science experiences and possess a disposition for further exploration and learning.

2. Overall evaluation of progress on outcome:
   - _____SLO is met after changes resulting from ongoing assessments, referencing assessment results from the previous year to highlight revisions;
   - _____SLO is met, but with changes forthcoming;
   - X _____SLO met without change required

3. Strategies and methods: Students are assessed for this SLO through the Department of Education. Besides field experience observations, student must past the Teacher Preparation Assessment. All of our students who did student teaching last year, passed and many are currently employed as new biology teachers.

4. Observations gathered from data: Include findings and analyses based on the strategies and methods identified in item #3.
   a. Findings: 100% passed student teaching and the TPA.
   b. Analysis of findings: Met objective.

5. What program changes will be made based on the assessment results?
   a) Describe plans to improve student learning based on assessment findings (e.g., course content, course sequencing, curriculum revision, learning environment or student advising). None planned.

   b) Provide a broad timeline of how and when identified changes will be addressed in the upcoming year. None warranted.
6. Description of revisions to the assessment process the results suggest are needed and an evaluation of the assessment plan/process itself. None needed.

SLO II

1. Student Learning Outcome II: Organize a safe and effective learning environment

2. Overall evaluation of progress on outcome:
   _____ SLO is met after changes resulting from ongoing assessments, referencing assessment results from the previous year to highlight revisions;
   _____ SLO is met, but with changes forthcoming;
   _X_____SLO met without change required

3. Strategies and methods: Students are assessed for this SLO through the Department of Chemistry during their course CHEM 390. For those that do not do the general science endorsement, which includes maybe one student a year, I assess them through their experience as a teaching assistant in the BIOL100 course. Students in CHEM390 are required to retake the exam until they pass minimally at 70%. This course includes updates on OASHA regulations.

4. Observations gathered from data: Include findings and analyses based on the strategies and methods identified in item #3.
   Findings: 100%
   Analysis of findings: Met objective.

5. What program changes will be made based on the assessment results?
   a) Describe plans to improve student learning based on assessment findings (e.g., course content, course sequencing, curriculum revision, learning environment or student advising). None planned.
   b) Provide a broad timeline of how and when identified changes will be addressed in the upcoming year. None warranted.

6. Description of revisions to the assessment process the results suggest are needed and an evaluation of the assessment plan/process itself. None needed.

SLO III:

1. Interrelate and interpret important concepts, ideas and application in the field of biology; and conduct scientific investigations.

2. Overall evaluation of progress on outcome:
   _____ SLO is met after changes resulting from ongoing assessments, referencing assessment results from the previous year to highlight revisions;
3. Strategies and methods: **Students are assessed throughout their program in each of their courses and must minimally achieve a 2.0 in any of their courses. Students must also pass an external evaluation on the WEST-E Biology Exam where these topics are assessed.**

4. Observations gathered from data: Include findings and analyses based on the strategies and methods identified in item #3.
   a. Findings: **100% passed West E Biology Exam**
   b. Analysis of findings: Met objective.
   c.

5. What program changes will be made based on the assessment results?
   a) Describe plans to improve student learning based on assessment findings (e.g., course content, course sequencing, curriculum revision, learning environment or student advising).
      **None planned.**

6. What program changes will be made based on the assessment results?
   a) Provide a broad timeline of how and when identified changes will be addressed in the upcoming year. **None warranted.**
   b) Description of revisions to the assessment process the results suggest are needed and an evaluation of the assessment plan/process itself. **None needed**

---

**SLO IV**

Student Learning Outcome IV: **Develop strategies for teaching that organic evolution is a unifying theme.**

1. **Overall evaluation of progress on outcome:**
   - _____ SLO is met after changes resulting from ongoing assessments, referencing assessment results from the previous year to highlight revisions;
   - _____ SLO is met, but with changes forthcoming;
   - X_____ SLO met without change required

2. Strategies and methods: **Students in BIOL390 analyze misconceptions held by K-12 students and look at curriculum to overcome these misconceptions. Their evaluations of student answers are graded according to how well they can assess misconceptions.**

3. Observations gathered from data: Include findings and analyses based on the strategies and methods identified in item #3.
   a. Findings: **100% passed with 80% or better on this assignment**
   b. Analysis of findings: Met objective.
4. What program changes will be made based on the assessment results?
   a) Describe plans to improve student learning based on assessment findings (e.g., course content, course sequencing, curriculum revision, learning environment or student advising). None planned.
   
   b) Provide a broad timeline of how and when identified changes will be addressed in the upcoming year. None warranted.

5. Description of revisions to the assessment process the results suggest are needed and an evaluation of the assessment plan/process itself. None needed.

6. What program changes will be made based on the assessment results?
   a) Provide a broad timeline of how and when identified changes will be addressed in the upcoming year. None warranted.

   b) Description of revisions to the assessment process the results suggest are needed and an evaluation of the assessment plan/process itself. None needed

SLO-V

Student Learning Outcome V: Construct and use effective assessment strategies to determine the backgrounds and achievements of learners and facilitate their intellectual, social and personal development.

1. Overall evaluation of progress on outcome:
   _____ SLO is met after changes resulting from ongoing assessments, referencing assessment results from the previous year to highlight revisions;
   _____ SLO is met, but with changes forthcoming;
   _X_____ SLO met without change required


3. Observations gathered from data: Include findings and analyses based on the strategies and methods identified in item #3.
   a. Findings: See data below.

<table>
<thead>
<tr>
<th></th>
<th>Diagnostic Assessment</th>
<th>Formative Assessment</th>
<th>Summative Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student Average</td>
<td>90%</td>
<td>89%</td>
<td>90%</td>
</tr>
</tbody>
</table>

   b. Analysis of findings: Met objective.
4. What program changes will be made based on the assessment results?
   
a) Describe plans to improve student learning based on assessment findings (e.g., course content, course sequencing, curriculum revision, learning environment or student advising). **None planned.**

   b) Provide a broad timeline of how and when identified changes will be addressed in the upcoming year. **None warranted.**

5. Description of revisions to the assessment process the results suggest are needed and an evaluation of the assessment plan/process itself. **None needed.**

6. What program changes will be made based on the assessment results?
   
a) Provide a broad timeline of how and when identified changes will be addressed in the upcoming year. **None warranted.**

   b) Description of revisions to the assessment process the results suggest are needed and an evaluation of the assessment plan/process itself. **None needed.**

SLOVI

Student Learning Outcome VI: **Engage students both in studies of various methods of scientific inquiry and in active learning through scientific inquiry.**

**Overall evaluation of progress on outcome:**

   _____ SLO is met after changes resulting from ongoing assessments, referencing assessment results from the previous year to highlight revisions;

   _____ SLO is met, but with changes forthcoming;

   _X_ _____ SLO met without change required

1. Strategies and methods:
   a) Students develop an activity according to the 5E model of inquiry pedagogy and present to students. Students had to provide a draft of the lesson that was critiqued and returned. They then presented their final activity to fellow students.

   b) Students are assessed externally by performance on the TPA

2. Observations gathered from data: Include findings and analyses based on the strategies and methods identified in item #3.
   a. Findings: 100% passed this assignment with an average of 90%.

   b. 100% passed the TPA

   c. Analysis of findings: **Met objective.**
3. What program changes will be made based on the assessment results?
   
a) Describe plans to improve student learning based on assessment findings (e.g., course content, course sequencing, curriculum revision, learning environment or student advising). **None planned.**

   b) Provide a broad timeline of how and when identified changes will be addressed in the upcoming year. **None warranted.**

4. Description of revisions to the assessment process the results suggest are needed and an evaluation of the assessment plan/process itself. **None needed.**

5. Description of revisions to the assessment process the results suggest are needed and an evaluation of the assessment plan/process itself. **None needed.**

6. What program changes will be made based on the assessment results?
   
a) Provide a broad timeline of how and when identified changes will be addressed in the upcoming year. **None warranted.**

   b) Description of revisions to the assessment process the results suggest are needed and an evaluation of the assessment plan/process itself. **None needed.**

**NEW: PART II – CLOSING THE LOOP**

**FOLLOW-up FROM THE 2011-12 PROGRAM ASSESSMENT REPORT**

In response to the university’s accrediting body, the Northwest Commission on Colleges and Universities, this section has been added. This should be viewed as a follow up to the previous year’s findings. In other words, begin with findings from 2011-12, and then describe actions taken during 2012-13 to improve student learning along, provide a brief summary of findings, and describe possible next steps.

**Working definition for closing the loop:** Using assessment results to improve student learning as well as pedagogical practices. This is an essential step in the continuous cycle of assessing student learning. It is the collaborative process through which programs use evidence of student learning to gauge the efficacy of collective educational practices, and to identify and implement strategies for improving student learning.” Adapted 8.21.13 from [http://www.hamline.edu/learning-outcomes/closing-loop.html](http://www.hamline.edu/learning-outcomes/closing-loop.html).

1. **Student Learning Outcome(s) assessed for 2011-12**  The results of our assessment efforts for the 2011-2012 showed that the Biology BAE program is doing an excellent job of preparing our students to become biology educators. Further testimony is that our students are
successful in getting jobs. All students who actively sought employment this year are currently in a position.

2. **Strategies implemented** during 2012-13 to improve student learning, based on findings of the 2011-12 assessment activities. **NONE WARRANTED**

3. **Summary of results** (may include comparative data or narrative; description of changes made to curriculum, pedagogy, mode of delivery, etc.): Describe the effect of the changes towards improving student learning and/or the learning environment. **NONE WARRANTED**

4. What **further changes to curriculum, pedagogy, mode of delivery**, etc. are projected based on closing-the-loop data, findings and analysis?