



## Assessment of Student Learning Plan (ASLP)

**2019-2020 Academic Year**

**Reminder:** All Department/Program Chairs are responsible for completing an ASLP form by the end of this academic year for each academic program in your department. This campus-wide (annual) form is used to document the ongoing program assessment activities in each department/program. The form is designed to align with the NECHE (New England Commission of Higher Education) accreditation- assessment standards. If you have questions about this form, or need assistance with your program assessment plans, please contact Susan King, Director of Academic Assessment, 780-4681, [susank@maine.edu](mailto:susank@maine.edu). **Please email this form by May 31, 2020.**

### **Overview Information:**

College CSTH

Department **Biological Sciences**

Degree Program B.S.

Contact Person for the Assessment Plan: Jeff Walker

Current Date: Nov 13, 2020

List the date of the most recent academic program review/self-study: Spring 2018

### **Program Assessment Plan Information:**

Do you have a Formal Program Assessment Plan?  **Yes**  **No**

**If YES**, please attach your Program Assessment Plan/Cycle, or indicate the link on your website: \_\_\_\_\_ . Then, complete **Step 3** of this ASLP form (see **pages 4-5**) to describe how the assessment results were used for program improvement purposes.

**If NO**, your department/program does not have a Formal Assessment Plan (beyond this academic year), please complete all sections of this ASLP form.

\*(Please see assessment website for an example/template of a 3-year assessment plan)

## **Mission Statement:**

1. Provide your program's mission statement in the space below, or provide a link to the statement from your program's webpage.
2. Briefly describe the ways in which your program's mission statement is aligned with the USM mission.

## **Diversity, Equity, and Inclusion**

If your program has diversity, equity, and inclusion related goals, or a diversity, equity, and inclusion statement; please provide a link to the statement and/or goals. Then, briefly describe any assessment activities related to your program statement/goals regarding diversity, equity, and inclusion.

## **Assessment of Student Learning: Program Assessment Steps**

### **Step 1: Program-level Student Learning Outcomes (SLO's)**

- a. Please provide the **URL** for your **program-level student learning outcomes** as published on your department's website:
- b. Please provide the **URL** of your **curriculum assessment map** showing when your student learning outcomes are assessed and in which courses:

If your program's curriculum assessment map is **not** published, please complete the template (on page 6 of this document), and include it with your ASLP, or attach your own version.

- c. Please list the program learning outcomes which were assessed since the submission of your last ASLP (May 2019).

**Step 2: Assessment Methods Selected and Implemented /Summary of Results**

- a. **Identify the assessment measures (evidence of student learning) that were used to determine whether students achieved the stated learning outcomes for the degree.** Please check all the measures used since the submission of your last ASLP (May 2019), on the chart below. Also indicate when you implemented the assessment activity.

<b><u>Check Assessment Methods Used this Academic Year</u></b>	<b><u>When Implemented</u></b>		
<input type="checkbox"/> Artistic Exhibition/Types of Performance	Fall	Spring	Summer
<input type="checkbox"/> Class assignments/Exams/Papers (completed in course)	Fall	Spring	Summer
<input type="checkbox"/> Capstone Project (written project, non-thesis paper)	Fall	Spring	Summer
<input type="checkbox"/> Comprehensive or licensure exam (created by external org)	Fall	Spring	Summer
<input type="checkbox"/> Exit Exam (created by department or program)	Fall	Spring	Summer
<input type="checkbox"/> Exit Interview (individual or indiv self-reports of outcomes)	Fall	Spring	Summer
<input type="checkbox"/> Employer meetings/discussions on student outcomes	Fall	Spring	Summer
<input type="checkbox"/> Focus Groups (self-reports of outcome attainment)	Fall	Spring	Summer
<input type="checkbox"/> Internship/Fieldwork (evaluations of performance)	Fall	Spring	Summer
<input type="checkbox"/> Oral Performance/conference presentation	Fall	Spring	Summer
<input type="checkbox"/> Portfolio of student work	Fall	Spring	Summer
<input type="checkbox"/> Reflection Essays (self-report of outcome achievement)	Fall	Spring	Summer
<input type="checkbox"/> Research Papers (used for course & program assessment)	Fall	Spring	Summer
<input type="checkbox"/> Supervisor/Employer Evaluation (performance outside of class)	Fall	Spring	Summer
<input type="checkbox"/> Student Survey information (student self-reports on outcomes)	Fall	Spring	Summer
<input type="checkbox"/> Thesis/Dissertation (used for course & program assessment)	Fall	Spring	Summer
<input type="checkbox"/> Other: please explain			

- b. **Briefly describe the implementation process** (i.e. where were students assessed, what courses, what class levels, or any other specific details, etc).
- c. **Provide a brief summary (numerical or narrative) of your assessment results** (e.g., . an illustration of the rubric-based scores, percentage of those who met the learning

outcome you assessed, number of students assessed and findings, copies of instruments or rubrics used, etc.)

- d. **Provide a brief summary of what your program learned or concluded from the evidence you collected** (e.g., did your program meet the expected goal or benchmark, does the new knowledge raise additional questions, do you need to collect additional types of data, did you get insights about the assessment procedures or about teaching and learning in your program?, etc.)

### **Step 3: Using the Assessment results to Improve Student Learning**

- a. Who interpreted or analyzed the results that were collected this past year? (check all that apply)

- Program instructors/faculty**
- Faculty committee
- Ad hoc faculty group
- Dept Chair/Program Director/Dean
- Faculty advisor
- Students (assistants, interns)
- Other: please explain

- b. How did they evaluate, analyze, or interpret those results? (check all that apply)

- Used a rubric or scoring guide(s) for an assignment, paper, etc.
- Scored exams/tests/quizzes**
- Used professional judgments (no rubric or scoring guide)
- Compiled or reviewed survey results
- Reviewed qualitative methods (interviews, focus groups, open-ended responses)
- External organization scored/analyzed data (licensure, comp exams)
- Other: please explain

- c. Indicate how the program will use (or has used) the results (check all that apply):

- Assessment procedure change (student outcomes, curriculum map, rubric, evidence collected, sampling procedure, communications with faculty, etc.)
- Course changes (course content, courses offered, new course, pre-requisites, course

requirements, etc.)

Course pedagogy changes (teaching)

Personnel or resource allocation changes

Program policy changes (admission requirements, student probation policies, course feedback forms, etc.)

Student's out-of-course experiences (co-curricular requirements, program website, program handbook, student workshops, etc.)

Student Advising experiences (advisor-advisee relationship, communication of changes or expectations, etc.)

Results indicated no action needed, students met expectations

**Other: please explain – our outcomes are based on comparison at end of career relative to beginning of career. We haven't collected enough data to make decisions.**

d. Briefly explain each of the program changes/improvements indicated above.

e. Indicate when the program improvements (noted above) will be implemented or if you already made program changes (e.g., during the summer months, beginning of the fall semester, etc.).

**Other Assessment Activities:** Briefly describe any additional assessment-related activities being done at the course level (e.g., common assignments and/or assignment rubrics for use across different sections of required courses, examining student progress in entry-level, capstone, or other courses, other assessment projects implemented by individual faculty, etc.)

**No assessment activities:** If your program did not engage in any assessment activities this past academic year, please explain, and please indicate what assistance you need.

## APPENDIX B: ASSESSMENT PLAN FOR STUDENT LEARNING GOALS

### *Goal 1. Fundamentals*

For Goal 1 we will implement The Biological Concept Inventory (BCI), developed by Klymkowsky and Garvin-Doxas (2008), a product of research funded by the National Science Foundation at the University of Colorado, Boulder. The BCI has been rigorously researched and specifically addresses student misconceptions about biology and tests overarching concepts fundamental to the biological sciences. This assessment will be given at the beginning of the program in BIO 105 and then again at the end of the program during the exam period of the student's last biology class.

### *Goal 2. Evolution*

We specifically wish to directly assess our students' knowledge of natural selection using the Natural Selection Concepts Inventory (Anderson et al. 2002). This 20 question multiple choice inventory has been well researched and results correlate well with those of student interviews. Again, we plan to employ this survey near the beginning of the students' career here at USM and then during the final exam period of the evolution course (or the BIO 107 course in the case of Biotechnology and Human Biology concentrations).

### *Goal 3. Genetics*

To assess knowledge of genetics, we will employ the recently created Genetics Concept Inventory (Smith et al. 2008). The assessment has been reviewed by genetics experts, validated by student interviews, and taken by over 600 students. This GCI was designed to be given as a pre- and post test before and after a genetics course. However, we will apply this test at the beginning of a student's work in our major (first day of BIO 105) or directly after transferring to USM. The post-test will then be given during the final exam period of one of the student's last class periods.

*Goal 4. Specialization*

Assigning a committee to review randomly selected final exams in a blind review process could assess this goal.

*Goal 5. Lab/Field Skills*

This skill will be more difficult to assess, but we can envision a scenario where members of an assessment committee enter the laboratory section of a course and assess overall student mastery. Alternatively, we could compose a survey of students asking them how confident they feel in their ability to use the skills we expect them to know.

*Goal 6. Scientific Communication*

Assigning a committee to randomly choose and evaluate papers, posters, and presentations by students from upper level courses could assess this goal.

*Goal 7. Scientific Worldview*

This goal would be the most difficult to assess. However, a number of Nature of Science Concept Inventories are being formulated to evaluate just this worldview.