# Program Assessment Plan

Program: B.S.  
Department: Biology  
College/School: Arts and Sciences  
Date: 1-29-2018  
Primary Assessment Contact: Dr. Thomas Valone  

Note: Each cell in the table below will expand as needed to accommodate your responses.

<table>
<thead>
<tr>
<th>#</th>
<th>Program Learning Outcomes</th>
<th>Assessment Mapping</th>
<th>Assessment Methods</th>
<th>Use of Assessment Data</th>
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</thead>
</table>
| 1  | Students will be able to effectively apply core biological concepts to solve problems | BIOL 1245 & 1265 (freshmen)  
BIOL 3020 & 3040 (sophomores)  
BIOL 3010 (juniors & seniors)  
BIOL 4070 (seniors)  
BIOL 4480 (seniors)  
BIOL 4960; 4970 4980 (seniors) | Lab reports  
Embedded exam questions & pre-test post-test exams  
Quizzes and assignments  
Exam questions; written reports  
Written paper  
Lab notebooks; research posters | Each fall the Program-level assessment committee will report findings to the faculty. The committee will lead a discussion about how the data can inform changes to the program to improve student learning of the outcome. After a change has been made, we will assess the impact on student learning in the next academic year. |
| 2  | Students will be able to critically BIOL 1245 & 1265 (freshmen) | Lab reports | Each fall the Program-level assessment |
| Evaluate scientific information from multiple sources, including that from the primary literature | BIOL 3010 (juniors & seniors)  
BIOL 3030 (juniors & seniors)  
BIOL 4070 (seniors)  
BIOL 4360 (juniors & seniors)  
BIOL 4480 (seniors)  
BIOL 4960 4970 4980 (seniors) | Class assignments  
Class assignments  
Class assignments  
Written assignments  
Written paper  
Lab notebooks; research posters  
-All of the above will be scored by the instructor AND at least 2 members of the Program-level assessment committee | Each fall the Program-level assessment committee will report findings to the faculty. The committee will lead a discussion about how the data can inform changes to the program to improve student learning of the outcome. After a change has been made, we will assess the impact on student learning in the next academic year. |
|---|---|---|---|
| Students will be able to apply biological principles to global societal issues | BIOL 1245 & 1265 (freshman)  
BIOL 3010 (juniors & seniors)  
BIOL 4480 (seniors) | Lab reports  
Class assignments & discussions  
Written paper  
-All of the above will be scored by the instructor AND at least 2 members of the Program-level assessment committee | Each fall the Program-level assessment committee will report findings to the faculty. The committee will lead a discussion about how the data can inform changes to the program to improve student learning of the outcome. After a change has been made, we will assess the impact on student learning in the next academic year. |
| Students will be able to draw valid conclusions from quantitative data | BIOL 3040 (sophomores) | On-line homework assignments  
-Scored by 2 instructors and 2 members of the Program-assessment committee | Each fall the Program-level assessment committee will report findings to the faculty. The committee will lead a discussion about how the data can inform changes to the program to improve student learning of the outcome. After a change has been made, we will assess the impact on student learning in the next academic year. |
| Students will be able to formulate hypotheses that address research questions | BIOL 4250, 4980 (seniors) | Research papers/posters  
-Scored by 2 members of the Program-assessment committee | Each fall the Program-level assessment committee will report findings to the faculty. The committee will lead a discussion about how the data can inform changes to the program to improve student learning of the outcome. After a change has been made, we will assess the impact on student learning in the next academic year. |
<table>
<thead>
<tr>
<th>Outcome</th>
<th>Course(s)</th>
<th>Assessment Method</th>
<th>Explanation</th>
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</table>
| 6       | Students will be able to correctly perform common laboratory and/or field techniques | BIOL 1245 & 1265 (freshmen)  
BIOL 3060, 4050, 3470, 4650 4750 (juniors and seniors) | Lab reports  
Scored by the instructor and 2 members of the Program-assessment committee | Each fall the Program-level assessment committee will report findings to the faculty. The committee will lead a discussion about how the data can inform changes to the program to improve student learning of the outcome. After a change has been made, we will assess the impact on student learning in the next academic year. |
| 7       | Students will be able to effectively apply the scientific method to test hypotheses | BIOL 4980 (seniors) | Research papers/posters/presentations  
Scored by 2 members of the Program-assessment committee | Each fall the Program-level assessment committee will report findings to the faculty. The committee will lead a discussion about how the data can inform changes to the program to improve student learning of the outcome. After a change has been made, we will assess the impact on student learning in the next academic year. |

**Additional Questions**

1. On what schedule/cycle will faculty assess each of the above-noted program learning outcomes? *(It is not recommended to try to assess every outcome every year.)*

   Each year, we will focus on 1-2 outcomes for the BS.

2. Describe how, and the extent to which, program faculty contributed to the development of this plan.
The Program-level assessment committee is comprised of 6 faculty members. The outcomes the committee developed were discussed at two faculty meetings and the faculty unanimously approved them.

3. On what schedule/cycle will faculty review and, if needed, modify this assessment plan?

Each semester, the program-level assessment committee will meet monthly to discuss how the plan is working. Each year the committee reports to the faculty and can recommend changes to the plan.

*IMPORTANT: Please remember to submit any assessment rubrics (as noted above) along with this report.*