**2019‐2020 Assessment Reporting Template for Graduate and Undergraduate Programs**

Directions:

* First, please provide the program summary information requested below.
* Table 1: Presentation of student learning outcomes (SLOs).
  + Each program should have a ***total of 5 to 8 SLOs***, unless otherwise specified by a discipline-specific accrediting body.
  + Please make sure to **list all of your SLOs**, along with corresponding measures and targets.
  + Please also **provide findings and comments** on your findings **for at least 2 to 3 of your SLOs** each year.
  + An action plan for **at least one SLO** should be provided each year, *even if* all SLO targets were met.
* Table 2: Presentation of program outcomes (POs).
  + Each program should have a ***total of 2 to 3 POs***.
  + Please make sure to **list all of your POs**, along with corresponding measures and targets.
  + Please also **provide findings and comments** on your findings **for** **at least 1 to 2 of your POs** each year.
* General Question: A general question was added in 2016-2017, with additional questions included as of 2017-2018. Please **respond to at least one** of the general questions at the end of this document.

Reports are due **June 30, 2020**. If you need assistance, please do not hesitate to contact Bethany Bodo, Director, Assessment and Evaluation, Office of Academic Decision Support, at [bbodo@vt.edu](mailto:bbodo@vt.edu).

**Program Summary**

***Degree Program:*** Biology, BS ***Department Chair:*** John Doe

Stakeholders



***Point of Contact Regarding Assessment (if different than Chair):*** Jane Smith ***Program Mission Statement***:

Program name and degree

The mission of the BS degr

Primary Purpose

ergrad

continue



# ee program in the Department of Biology is to prepare und uate students to their studies in an advanced degree program or obtain an entry level position in a biology‐related field. By providing excellent undergraduate instruction and the ability to work on research or participate in practical biological experiences, the program strives to create students

ho are knowledgeable across various biological fields and are able to think critically. This mission aligns with the institutional and llege missions of educating undergraduate students to become productive and knowledgeable citizens

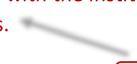
Primary Activities

Mission Alignment

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## Table 1: Student Learning Outcomes

### As a reminder, each program should be measuring at least 2‐3 student learning outcomes each year and all outcomes should be measured at least twice in a 5‐year time period.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| *SLO Process* | | | | *SLO Use of Results* | | |
| *Student Learning* | *Assessment Measures* | *Targets* | *2019‐2020 AY Findings* | *Comments on Findings* | *Action Planning* | *Comments on Action* |
| *Outcomes (SLOs)* | *Please include a measure for each SLO,* | *Please include a target* | *Please include findings* | *Please include comments on* | *Is the program* | *Planning* |
| *Please include* | *even if the outcome was not measured this* | *for each SLO, even if the* | *for each SLO measured* | *your findings for each SLO* | *planning any* | *What action plans* |
| *all of your SLOs,* | *year.* | *outcome was not* | *this year.* | *measured this year. What do* | *changes or other* | *have been* |
| *even if they* |  | *measured this year.* |  | *these findings mean to your* | *improvements* | *implemented for this* |
| *were not* |  |  | *Did you meet your* | *program? When do you plan* | *related to this* | *outcome in the past?* |
| *measured this* |  |  | *target(s)?* | *to measure the outcome* | *outcome? An* | *How have those* |
| *year.* |  |  |  | *again? Are you considering* | *action plan should* | *changes affected* |
|  |  |  |  | *making changes to your* | *be included for all* | *student learning* |
|  |  |  |  | *assessment plan based on* | *SLOs with unmet* | *and/or program* |
|  |  |  |  | *these results? (Changes for* | *targets OR at least* | *quality?* |
|  |  |  |  | *improving student learning on* | *one SLO each year,* |  |
|  |  |  |  | *an outcome should be* | *even if all targets* |  |
|  |  |  |  | *included in the Action* | *were met.* |  |
|  |  |  |  | *Planning column.)* |  |  |
| SLO #1: Explain | Direct measure, capstone paper: | 80% of the students will | 65% of the seniors | Although there was a slight | The program is | Last year the program |
| the core |  | meet or exceed | taking the BIOL 4030 | increase in student | working to | decided to review with |
| biological | In BIOL 4030, students are required to | expectations on the | course were rated as | performance from the | implement | students what was |
| concepts related | complete a capstone paper. This paper | rubric items pertaining | meeting or exceeding | previous year, we still are not | refresher sessions | expected of them in |
| to evolution and | contains a section for students to explain | evolution and principles | expectations. | meeting our target. Students | on core evolution | the capstone paper. |
| principles of | the core biological concepts related to | of genetics. |  | may need a refresher in this | and genetics | There was a 10% |
| genetics. | evolution and principles of genetics. A |  | Target: Not Met | area since most content in | concepts during | increase in the |
|  | rubric will be used to evaluate student |  |  | this area is covered during | the 2018‐2019 | percentage of |
|  | performance on this aspect of the |  |  | their sophomore year in the | academic year. | students meeting the |
|  | capstone paper (Scale: 1 = significantly |  |  | program. | The outcome will | target. (2016‐2017: |
|  | below expectations, 2 = somewhat below |  |  |  | then be re‐ | 55%) |
|  | expectations, 3 = meets expectations, 4 = |  |  |  | measured during |  |
|  | slightly exceeds expectations, and 5 = |  |  |  | the 2019‐2020 |  |
|  | significantly exceeds expectations). |  |  |  | academic year. |  |
|  | Indirect measure, graduating student exit | 80% of students will say | 40 students | Students feel that they are | The program will | No previous action |
|  | survey: | that these areas of | completed the | achieving these areas in the | ask their Advisory | plans were |
|  |  | biology are “important” | graduating student | undergraduate program in | Board about the | implemented for this |
|  | Two questions pertaining to the | or “very important” to a | exit survey. | Biology. However, they don’t | concept of | area. The survey was |
|  | importance and achievement of evolution | biology major and 90% |  | feel as if the evolution | evolution to | created and piloted |
|  | and genetics. All questions are on a 4‐ | of students will say that | 70% (28 students) of | component is as important as | ensure this is still a | during the 14‐ 15 |
|  | point Likert scale (Importance scale: 1 = | regarding achievement | students rated the | the program would like. | critical area for | academic year, and |
|  | not important, 2 = somewhat important, 3 | they were | importance of the |  | undergraduate | this is only the second |
|  | = important, 4 = very important and | “accomplished” or | evolution area as |  | Biology majors. | time it has been |
|  | Achievement scale: 1 = beginning, 2 = | “exemplary.” | either “important” or |  | And, if so, the | implemented. |
|  | developing, 3 = accomplished, and 4 = |  | “very important.” This |  | program will |  |
|  | exemplary). |  | is below our target. |  | continue to |  |
|  |  |  |  |  | emphasize this |  |
|  |  |  |  |  | area and reinforce |  |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  |  |  | 83% (33 students) of |  | the importance of |  |
| the students rated the | these topics to |
| importance of the | students during |
| genetics area as either | the course of their |
| “important” or “very | program. |
| important,” meeting |  |
| the target. |  |
| 93% (37 students) of |  |
| students rated their |  |
| achievement in the |  |
| evolution area as |  |
| “accomplished” or |  |
| “exemplary,” meeting |  |
| our target for this |  |
| area. |  |
| 90% (36 students) of |  |
| students rated their |  |
| achievement in |  |
| genetics as |  |
| “accomplished” or |  |
| “exemplary,” meeting |  |
| the target. |  |
| SLO #2: | Direct measure, capstone paper: | Written communication | Only the indirect | N/A | N/A | N/A |
| Effectively |  | targets: 80% of the | survey measure was |  |  |  |
| communicate | In BIOL 4030, students are required to | students will meet or | implemented this |  |  |  |
| scientific | complete a capstone paper. This paper will | exceed expectations on | year. The direct |  |  |  |
| information in | be rated with a rubric designed to | the rubric items | measure will be |  |  |  |
| both written | evaluate the student’s ability to | pertaining to written | collected during 2018‐ |  |  |  |
| and oral | communicate effectively in writing. (Scale: | communication. Rating | 2019 for this student |  |  |  |
| formats. | 1 = significantly below expectations, 2 = | of a “3” or above. | learning outcome. |  |  |  |
|  | somewhat below expectations, 3 = meets |  |  |  |  |  |
|  | expectations, 4 = slightly exceeds | And 40% of the |  |  |  |  |
|  | expectations, and 5 = significantly exceeds | students will either |  |  |  |  |
|  | expectations.) | slightly exceed or |  |  |  |  |
|  |  | significantly exceed |  |  |  |  |
|  |  | expectations (rating of |  |  |  |  |
|  |  | “4” or “5”). |  |  |  |  |
|  | Direct measure, capstone presentation: | Oral communication | Only the indirect | N/A | N/A | N/A |
|  |  | targets: 70% of the | survey measure was |  |  |  |
|  | Students are also required to do a | students will meet or | implemented this |  |  |  |
|  | presentation in this course for their | exceed expectations on | year. The direct |  |  |  |
|  | capstone project. A rubric designed to | the rubric items | measure will be |  |  |  |
|  | measure oral communication skills will be | pertaining to oral | collected during 2018‐ |  |  |  |
|  | used to rate student performance on the | communication. Rating | 2019 for this student |  |  |  |
|  | presentation. | of a “3” or above. | learning outcome. |  |  |  |

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|  | (Scale: 1 = significantly below | And 30% of the |  |  |  |  |
| expectations, 2 = somewhat below | students will either |
| expectations, 3 = meets expectations, 4 = | slightly exceed or |
| slightly exceeds expectations, and 5 = | significantly exceed |
| significantly exceeds expectations.) | expectations (rating of |
|  | “4” or “5”). |
| Indirect measure, graduating student exit | 80% of students will say | 40 students | Students feel that they are | The program will | N/A |
| survey: | that written and oral | completed the | achieving both oral and | examine these |  |
|  | communication are | graduating student | written communication skills | findings as |  |
| Two questions pertaining to the | “important” or “very | exit survey. 98% (39 | in the program. | compared to the |  |
| importance and achievement of effective | important” for a biology | students) of students |  | direct assessments |  |
| written and oral communication. All | major and 90% of | rated the importance |  | that will be |  |
| questions are on a 4‐point Likert scale. | students will say that | of written |  | implemented |  |
| (Importance scale: 1 = not important, 2 = | regarding achievement | communication as |  | during the 2018‐ |  |
| somewhat important, 3 = important, 4 = | they were | either “important” or |  | 2019 academic |  |
| very important and Achievement scale: 1 = | “accomplished” or | “very important,” and |  | year. |  |
| beginning, 2 = developing, 3 = | “exemplary.” | 88% (35 students) of |  |  |  |
| accomplished, and 4 = exemplary). |  | students rated the |  |  |  |
|  |  | importance of oral |  |  |  |
|  |  | communication as |  |  |  |
|  |  | “important” or “very |  |  |  |
|  |  | important,” meeting |  |  |  |
|  |  | the target for these |  |  |  |
|  |  | areas. |  |  |  |
|  |  | 93% (37 students) of |  |  |  |
|  |  | students rated their |  |  |  |
|  |  | achievement in |  |  |  |
|  |  | written |  |  |  |
|  |  | communication as |  |  |  |
|  |  | “accomplished” or |  |  |  |
|  |  | “exemplary” and 90% |  |  |  |
|  |  | (36 students) of |  |  |  |
|  |  | students rated their |  |  |  |
|  |  | achievement in |  |  |  |
|  |  | genetics as |  |  |  |
|  |  | “accomplished” or |  |  |  |
|  |  | “exemplary,” meeting |  |  |  |
|  |  | the target for these |  |  |  |
|  |  | areas. |  |  |  |
| SLO #3: | Direct measure, final lab: | Since the appropriate | Not collected in 2017‐ | N/A | N/A | N/A |
| Demonstrate |  | handling of ethical | 2018. Will collect data |  |  |  |
| ethical | In BIOL 3942, students are required to | issues is very important | during 2018‐2019. |  |  |  |
| standards when | conduct several labs during the course of | in biological research |  |  |  |  |
| conducting | the semester. The final lab is designed so | and to the program, we |  |  |  |  |
| biological | that students are challenged with several | are setting very high |  |  |  |  |
| research. | ethical issues. Students will be rated with a | standards. Therefore, |  |  |  |  |
|  | rubric on how they overcome these | the program wants 95% |  |  |  |  |

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|  | ethical issues. (Scale: 1 = significantly below expectations, 2 = somewhat below expectations, 3 = meets expectations, 4 = slightly exceeds expectations, and 5 = significantly exceeds expectations.) | of the students to meet or exceed expectations and 75% of students to either slightly exceed or significantly exceed expectations. |  |  |  |  |
| SLO #4: | Direct measure, research paper: | 80% of students will | Did we meet our | The program feels that this | This past year the | This is a new |
| Explain how the |  | meet or exceed | targets? Yes, and no. | concept is very important for | program | assessment |
| study of | In BIOL 4090, students are required to | expectations when it | 45 students took the | undergraduate students. | developed and | methodology so no |
| biological | write a research paper on a current | comes to explaining the | BIOL 4090 course. 80% | Therefore, we would like to | implemented a | previous action plans |
| sciences impacts | finding in biology and how it is impacting | real‐ world impacts of | (36 students) of our | see more students rated in | new “Current | were implemented. |
| the real‐world. | the real world. Student responses to this | biology (rating of “3” or | students were rated as | the “slightly exceeding” or | Topics in Biology” |  |
|  | paper will be rated using a rubric. One | above), and 30% of | “meeting” or | “significantly exceeding” | course. The |  |
|  | section of this rubric pertains specifically | students will either | “exceeding” | categories. | program will start |  |
|  | to how well they explain how the current | slightly exceed or | expectations in this |  | requiring this |  |
|  | finding is impacting the real | significantly exceed | area. However, only |  | course of all |  |
|  | world. (Scale: 1 = significantly below | expectations (rating of | 7% (3 students) of the |  | students beginning |  |
|  | expectations, 2 = somewhat below | “4” or “5”). | students scored in the |  | in the 2018‐2019 |  |
|  | expectations, 3 = meets expectations, 4 = |  | highest category. |  | academic year. We |  |
|  | slightly exceeds expectations, and 5 = |  |  |  | will be tracking the |  |
|  | significantly exceeds expectations.) |  |  |  | results as the |  |
|  |  |  |  |  | students move |  |
|  |  |  |  |  | through the new |  |
|  |  |  |  |  | curriculum. |  |
|  | Indirect measure, graduating student exit | 80% of students will say | 40 students | Students feel that this is a | The program is | No previous action |
|  | survey: | that this area of biology | completed the | very important area in the | hoping that the | plans were |
|  |  | is “important” or “very | graduating student | field of biology but do not feel | addition of the | implemented for this |
|  | Two questions pertaining to the | important” to a biology | exit survey. 95% (38 | they are achieving this to the | required “Current | area. The survey was |
|  | importance and achievement of this area | major and 90% of | students) of students | degree the program would | Topics in Biology” | created and piloted |
|  | by students. Both questions are on a 4‐ | students will indicate | rated the importance | like. | course will further | during the 2015‐2016 |
|  | point Likert scale. (Importance scale: 1 = | that they are | of this area as either |  | expose students to | academic year and this |
|  | not important, 2 = somewhat important, 3 | “accomplished” or | “important” or “very |  | the real‐world | is only the second |
|  | = important, 4 = very important and | “exemplary” regarding | important,” meeting |  | impacts of the | time it has been |
|  | Achievement scale: 1 = Beginning, 2 = | achievement. | the target. |  | field. We will be | implemented. |
|  | Developing, 3 = Accomplished, and 4 = |  |  |  | tracking these |  |
|  | Exemplary). |  | 73% (29 students) of |  | percentages as the |  |
|  |  |  | students rated their |  | students move |  |
|  |  |  | achievement in this |  | through the new |  |
|  |  |  | area as |  | curriculum. |  |
|  |  |  | “accomplished” or |  |  |  |
|  |  |  | “exemplary,” not |  |  |  |
|  |  |  | meeting the target for |  |  |  |
|  |  |  | this area. |  |  |  |
| SLO #5: | Direct measure, lab experiment: | Since this is a lower‐ | 85 students took BIOL | We are glad to see student | No action plan | This outcome was |
| Effectively |  | level course, the initial | 2860. We met our | performance increase on this | needed at this | measured during the |
| execute basic | Students in the BIOL 2860 course are | target is that 70% of the | target for this | outcome. We will continue to | time. We are | 2016‐ 2017 academic |
| lab and | required to conduct a laboratory |  | outcome. 79% (67 |  |  | year and we were not |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| technology skills | experiment which demonstrates their lab | students will meet or | students) of the | monitor this outcome and | meeting our target | meeting our target. At |
| required for | skills and their ability to use the | exceed expectations. | students taking BIOL | measure again in 2019‐2020. | for this outcome. | that time we |
| biology | technology of the field. Students are rated |  | 2860 met or exceeded |  |  | implemented a lab |
| professionals | with the use of a rubric developed by the |  | expectations. |  |  | report review day in |
|  | department. (Scale: 1 = significantly below |  |  |  |  | the class to go over |
|  | expectations, 2 = somewhat below |  |  |  |  | basic lab procedures |
|  | expectations, 3 = meets expectations, 4 = |  |  |  |  | and demonstrate to |
|  | slightly exceeds expectations, and 5 = |  |  |  |  | students the |
|  | significantly exceeds expectations.) |  |  |  |  | appropriate way to |
|  |  |  |  |  |  | use the current |
|  |  |  |  |  |  | technology. This was |
|  |  |  |  |  |  | designed to help |
|  |  |  |  |  |  | students recall what |
|  |  |  |  |  |  | they learned in the |
|  |  |  |  |  |  | first lab course in the |
|  |  |  |  |  |  | BIOL 2850‐ 2860 |
|  |  |  |  |  |  | series. |
|  | Direct measure, lab experiment: | Since this course is | 45 students took the | We are very disappointed that | The faculty | This is a new |
|  |  | taken immediately prior | BIOL 4880 lab course. | only 51% of our seniors were | member teaching | assessment being |
|  | Senior level students are required to take | to graduation, students | We met the target of | able to exceed expectations. | this course has | conducted by the |
|  | the BIOL 4880 lab course. Students in this | are expected to be | 96% (43 students) of | We will need to monitor this | decided to | department and no |
|  | course are rated with the use of the same | highly skilled in these | the students being | outcome closely moving | implement two | previous action plans |
|  | department‐ developed rubric used in the | areas. Therefore, 95% | rated as meeting or | forward. | new labs for the | have been |
|  | BIOL 2860 course. | of the students will be | exceeding |  | seniors that will | implemented. |
|  | (Scale: 1 = significantly below | rated as meeting or | expectations. |  | require them to |  |
|  | expectations, 2 = somewhat below | exceeding expectations | However, only 51% |  | walk through the |  |
|  | expectations, 3 = meets expectations, 4 = | with 70% of the | (23 students) of our |  | use of each piece |  |
|  | slightly exceeds expectations, and 5 = | students exceeding | seniors were meeting |  | of equipment and |  |
|  | significantly exceeds expectations.) | expectations. | the second target of |  | conduct basic lab |  |
|  |  |  | exceeding |  | procedures. |  |
|  |  |  | expectations. |  |  |  |
|  | Indirect measure, graduating student exit | 80% of students will say | 40 students | The program is meeting the | N/A | No previous action |
|  | survey: | that basic lab and | completed the | targets for this outcome in |  | plans were |
|  |  | technology skills are | graduating student | terms of both importance and |  | implemented for this |
|  | Two questions pertaining to the | “important’ or “very | exit survey. 95% (38 | achievement. |  | area. The survey was |
|  | importance and achievement of basic lab | important” to a biology | students) of students |  |  | created and piloted |
|  | and technology skills. All questions are on | major and 90% of | rated the importance |  |  | during the 2016‐ 2017 |
|  | a 4‐point Likert scale. (Importance scale: 1 | students will say that | of basic lab skills as |  |  | academic year and this |
|  | = not important, 2 = somewhat important, | they are | either “important” or |  |  | is only the second |
|  | 3 = important, 4 = very important and | “accomplished” or | “very important” and |  |  | time it has been |
|  | Achievement scale: 1 = beginning, 2 = | “exemplary” in regard | 85% (34 students) of |  |  | implemented. |
|  | developing, 3 = accomplished, and 4 = | to achievement. | the students rated |  |  |  |
|  | exemplary). |  | technology skills as |  |  |  |
|  |  |  | either “important” or |  |  |  |
|  |  |  | “very important,” |  |  |  |
|  |  |  | meeting the targets. |  |  |  |

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| --- | --- | --- | --- | --- | --- | --- |
|  |  |  | 93% (37 students) of students rated their achievement of basic lab skills as “accomplished” or “exemplary” and 95% (38 students) rated their achievement of technology skills as “accomplished” or “exemplary,” meeting the targets. |  |  |  |
| SLO #6: | Direct measure, lab project: | 70% of the students will | Not collected in 2017‐ | N/A | N/A | N/A |
| Critically analyze |  | meet or exceed | 2018. Will collect data |  |  |  |
| scientific | In BIOL 3942, students are required to | expectations. | during 2018‐2019. |  |  |  |
| research and | critically analyze several research studies |  |  |  |  |  |
| findings. | prior to conducting each of the labs. For |  |  |  |  |  |
|  | the last critical review, students are rated |  |  |  |  |  |
|  | with a rubric measuring their ability to |  |  |  |  |  |
|  | analyze the research and findings |  |  |  |  |  |
|  | presented. (Scale: 1 = significantly below |  |  |  |  |  |
|  | expectations, 2 = somewhat below |  |  |  |  |  |
|  | expectations, 3 = meets expectations, 4 = |  |  |  |  |  |
|  | slightly exceeds expectations, and 5 = |  |  |  |  |  |
|  | significantly exceeds expectations.) |  |  |  |  |  |
| SLO #7: | Direct measure, short‐answer questions: | 75% of students will | Not collected in 2017‐ | N/A | N/A | N/A |
| Concentration, |  | score an average of 4.0 | 2018. Will collect data |  |  |  |
| Cell Biology: | Students choosing the concentration of | or higher on the items | during 2018‐2019. |  |  |  |
| Explain the use | cell biology are required to take BIOL | related to the use of |  |  |  |  |
| of cells and | 3250. On the final, students are required | biological materials in |  |  |  |  |
| biological | to answer short‐answer questions | biotechnology. |  |  |  |  |
| materials in | explaining the use of cells and biological |  |  |  |  |  |
| biotechnology. | materials in biotechnology. Answers will |  |  |  |  |  |
|  | be scored from 1 to 5 then averaged for |  |  |  |  |  |
|  | each student. |  |  |  |  |  |
| SLO #8: | Direct measure, short‐answer questions: | 75% of students will | 22 students took BIOL | N/A – Students met the target | N/A | The last time this |
| Concentration, |  | score an average of 4.0 | 3650 Biofuels. 86% (19 | since the restructuring of the |  | assessment was |
| Enviro. Biology: | Students choosing the concentration of | or higher on the | students) of the | course. |  | conducted only 50% of |
| Explain the role | Enviro. Biology are required to take BIOL | biofuels items. | students scored an |  |  | the students scored an |
| different | 3650 Biofuels. On the final, students are |  | average of 4.0 or |  |  | average of 4.0 or |
| biological | required to answer short‐answer |  | higher on the biofuels |  |  | higher on the 4 short‐ |
| components | questions explaining how the different |  | items, meeting the |  |  | answer items. Faculty |
| play in the | biological components play a role in the |  | target. |  |  | in the concentration |
| development of | development of biofuels. Answers are |  |  |  |  | changed the structure |
| biofuels. | scored from 1 to 5, then averaged for each |  |  |  |  | of the course and how |
|  | student. |  |  |  |  | they taught the |
|  |  |  |  |  |  | Biofuels area. This has |
|  |  |  |  |  |  | resulted in a |

Direct measure, paper:

Students choosing the Environmental Biology concentration are also required to take a capstone course in the concentration (BIOL 4410). In this course, students are required to write a paper on biofuels. Students are rated on a rubric designed by the concentration faculty. (Scale: 1= significantly below expectations, 2= somewhat below expectations, 3=meets expectations, 4 = slightly exceeds expectations, and 5 ficantly exceeds expectations.)

= signi

85% of the students will meet or exceed expectations in their ability to explain the role biological components play in the development of biofuels.

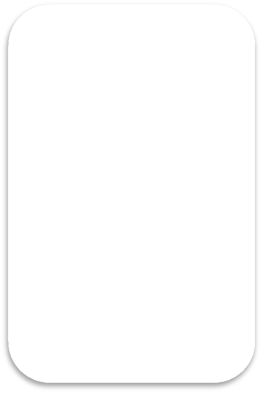
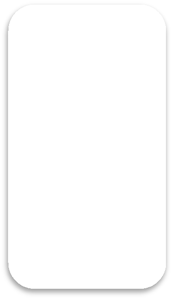
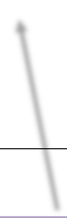
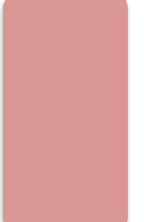
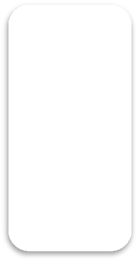
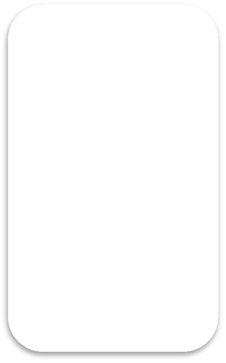
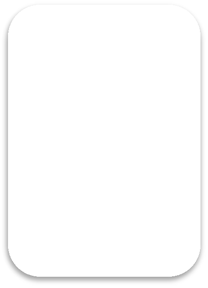
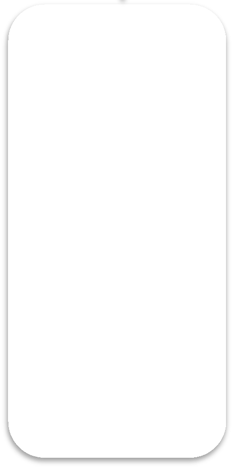
19 students took BIOL 4410. 95% (18

students) of students were rated as “meeting” or “exceeding” expectations, meeting the target.

The concentration faculty are pleased with the students’ performance on this learning outcome.

significant increase in student performance in this area.

N/A This was the second time this assessment was conducted and both times the achievement target was met.



The program has developed an appropriate number of student learning outcomes, all of which are measurable and have action verbs.

The outcomes are narrowly defined, specific, and seem appropriate for the program.

The outcomes align with the mission statement.

Each SLO has a direct measure that is a good indicator of the outcome.

The program uses multiple measures and a combination of direct and indirect measures for many of its SLO’s.

Measures are specific to the outcomes and will produce data specific enough to make improvements.

The program has defined achievement targets that are specific to each of the outcome‐ measure pairs.

Targets are achievable but rigorous.

The findings presented are:

Related to the outcome‐measure pair.

On the same scale as the target.

Specific enough to examine all aspects of the stated outcome.

Identified as meeting or not meeting their targets.

The program has provided information on how findings have been interpreted and what that means for the program moving forward.

Action plans are:

Provided for all outcomes where targets were not met.

Related to the outcome.

Sustainable and realistic for the program.

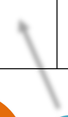
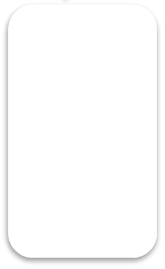
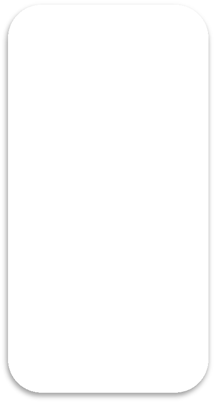
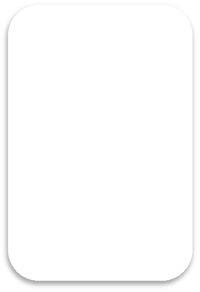
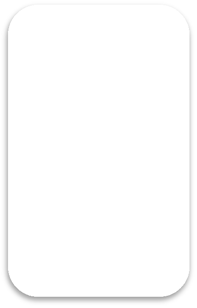
The program has reviewed any previous action plans and has provided commentary on the results.

## Table 2: Program Outcomes

### As a reminder, each program should be measuring at least 1‐2 program outcomes each year and all outcomes should be measured at least twice in a 5‐year time period.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| *PO Process & Use of Results* | | | | | | |
| *Program Outcomes* | *Assessment* | *Targets* | *2019‐2020 AY Findings* | *Comments on Findings* | *Action Planning* | *Comments on Action* |
| *(POs) Please include* | *Measures* | *Please include a* | *Please include findings for each* | *Please include comments* | *Is the program planning* | *Planning* |
| *all of your POs, even* | *Please include a* | *target for each PO,* | *PO measured this year.* | *on your findings for each* | *any changes or other* | *What action plans have* |
| *if they were not* | *measure for* | *even if the outcome* |  | *PO measured this year.* | *improvements related* | *been implemented for this* |
| *measured this year.* | *each PO, even if* | *was not measured* | *Did you meet your target(s)?* | *What do these findings* | *to this outcome? An* | *outcome in the past? How* |
|  | *the outcome* | *this year.* |  | *mean to your program?* | *action plan should be* | *have those changes* |
|  | *was not* |  |  | *When do you plan to* | *included for all POs with* | *affected the student* |
|  | *measured this* |  |  | *measure the outcome* | *unmet targets.* | *experience and/or* |
|  | *year.* |  |  | *again? Are you considering* |  | *program quality?* |
|  |  |  |  | *making changes to your* |  |  |
|  |  |  |  | *assessment plan based on* |  |  |
|  |  |  |  | *these results? (Changes for* |  |  |
|  |  |  |  | *improving program quality* |  |  |
|  |  |  |  | *and/or the student* |  |  |
|  |  |  |  | *experience should be* |  |  |
|  |  |  |  | *included in the Action* |  |  |
|  |  |  |  | *Planning column.)* |  |  |
| PO #1: Students | Tracking of | 80% of students | 85% of students who were | We were very pleased with | N/A | The program did not meet |
| enrolled in the BS | students | enrolled at the end | enrolled in the program at the | these findings, which |  | the established target for |
| Biology program at | enrolled in the | of their sophomore | end of their sophomore year | indicate a significant |  | this program outcome in |
| the end of their | program. | year will complete | graduated. | improvement over the last |  | 2013‐2014 (65% in 2013‐ |
| sophomore year will |  | the program. |  | several years. |  | 2014) and decided to |
| complete the |  |  | Target: Met |  |  | require students to |
| program. |  |  |  |  |  | complete an additional |
|  |  |  |  |  |  | course prior to moving |
|  |  |  |  |  |  | into the upper division |
|  |  |  |  |  |  | courses. It took the |
|  |  |  |  |  |  | program a few years to |
|  |  |  |  |  |  | implement this action |
|  |  |  |  |  |  | plan but we feel that it |
|  |  |  |  |  |  | has made a tremendous |
|  |  |  |  |  |  | difference in the number |
|  |  |  |  |  |  | of students completing |
|  |  |  |  |  |  | the program. |
| PO #2: Students | Alumni tracking | 75% of students | During the previous academic | We are disappointed that | We decided that we | This is a new program |
| enrolled in the BS | survey of | completing the BS | year, 46 students completed | only 65% of our graduates | need to have some | outcome, so no action |
| Biology program will | students who | program in Biology | the Biology BS program. 65% | have found related | workshops and | plans have been |
| continue on to an | completed the | will report | (30 students) of those students | employment or admission | seminars for students | previously implemented. |
| advanced degree | program during | continuing in an | reported continuing on to an | into graduate school within | on applying to graduate |  |

program or obtain employment in a related field within 1 year of graduation.



the previous academic year.

advanced degree program or obtaining employment in a related field.

advanced degree program or obtaining employment in a related field.

Target: Not Met

1 year of graduation. We need to continue monitoring this outcome.

school and jobs. We hope that this will help students moving forward.

* The program has developed two programs outcomes for the upcoming year.

***General Question:***

* Each of these outcomes is focused on either a specific student achievement area or an activity of the program.
* The outcomes are feasible for the program, and the program could develop action plans to address any deficiencies.
* The program outcomes are reflective of the developed mission statement.

The program has defined achievement targets that are specific to each of the outcome‐ measure pairs.

Targets are achievable but rigorous.

The findings presented are:

* Related to the outcome‐ measure pair.
* On the same scale as the target.
* Specific enough to examine all aspects of the stated outcome.
* Identified as meeting or not meeting their targets.

The program has provided information on how findings have been interpreted and what that means for the program moving forward.

Action plans are:

Provided for all outcomes where targets were not met.

Related to the outcome.

Sustainable and realistic for the program.

The program has reviewed any previous action plans and has provided commentary on the results.

# Please answer at least one of the following questions:

Each program outcome has a direct measure that is a good indicator of the outcome.

Measures are specific to the outcomes and will produce data specific enough to make improvements.

* + Is there any additional information not included in your assessment plan that you would like to share that describes efforts you have made to improve student learning, program quality, and/or the student experience?
  + What have you learned about your program or your students as a result of engaging in the assessment process?
  + What external factors are driving or informing your assessment practices?