2021-2022 Assessment Cycle

Assessment Findings

Program Assessment Accomplishments

Since the last report, the primary assessment accomplishment has been to complete the assessment of all PSLO's for the program a year early. When the switch to taskstream began I was informed that all PSLO's should be assessed every year. Due to the small size of the Environmental Biology BS/BA program, I had requested that the program be reviewed every four years and was approved to do so. At that point I was informed that I should simply state NA and that the program would be assessed every four years. However, in the 2020-2021 assessment review the program was scored as 0 in all communication sections and I realized that the recommendations must have changed. For this reason, here I have moved up the schedule and assessed all PSLO's using the available data from the last three years (rather than four).

Moving forward, we would like to switch to assessing 2 PSLO's per year. This would align the assessment of the program closer to what others are doing and what has been suggested in the workshop recordings.

Finding per Measure

BA - Environmental Biology Outcome Set

PSLO 1

Outcome: Describe or distinguish major biological principles

Describe or distinguish major biological principles in cell biology, genetics, organismal biology, ecology, and evolution.

Measure: Course Grades

Course level Direct - Student Artifact

Details/Description:	Performance in core courses
Acceptable Target:	60% earn a B or better for BI 102; 70% earn a B or better average for all other core courses

Findings for Course Grades

Summary of Findings:	Students exceeded the established target.

72% of students earned a B or better in BI 102 (n=11)* and 75%** earned a B or better average in their core courses (n=12).

*One student took BI 102 at another institution and grade was omitted (grade in equivalent course was a B).
**This is an unweighted average. If a weighted average is used (weighted by course credit), the 70% threshold would still be met.

Results : Acceptable Target Achievement: Exceeded

Recommendations: Student appear to be progressing well through the core courses.

Reflections/Notes: It may be important to establish how course scores should be "averaged". Weighting by course credit places too much emphasis on early courses and unweighted averages may favor small credit capstones students tend to perform well.

Substantiating Evidence:

Grades PSLO1.xlsx (Excel Workbook (Open XML))

Measure: Major Field Test
Program level Direct - Exam

Details/Description: The Major Field Test in Biology is a national exam used to assess mastery of concepts, principles and knowledge by graduating Biology students. The use of this test allows us to compare the performance of our students relative to those at approximately 1,500 accredited four year institutions. The test is organized into four major areas: cell biology;

	molecular biology and genetics; organismal biology; and population biology, evolution and ecology.
Acceptable Target:	Mean student score above the national standard in all sub-areas of the exam.

Findings for Major Field Test

Summary of Findings:	Of the 10 students that were able to take the Major Field Test*, the mean student "Total Score" exceeded the national average**. Students were also above the national average for the "population biology, evolution, and ecology" and "organismal biology" subsections. Unfortunately, students were slightly below the national average for the "cell biology" and "molecular biology and genetics" sub sections. However, average scores across all sections were within a fraction of the standard deviation. Therefore, a more appropriate interpretation would likely be that they were within the mean student score nationally. It is important to note that this exam does not affect students grades and one student likely did not take the exam seriously and performed very poorly. Removing this one student would place all the subscores above the national average. *Unfortunately, due to COVID restrictions in the spring of 2020 we were unable to administer the exam to two students. **The national average varies across years and therefore I weighted the national average by the number of Environmental Biology students taking the exam in the given year.
Results :	Acceptable Target Achievement: Met
Recommendations:	Students are performing on par with students at other institutions.

Reflections/Notes:	Given the small number of students that take the exam the average score can be easily swayed by a few excellent or poor students. Therefore it may be better to change the target to proportion of students within or above one standard deviation of the national average.

Substantiating Evidence:

Major Field Test for Watermark.xlsx (Excel Workbook (Open XML))

Measure: Student Exit Survey

Program level Indirect - Survey

Details/Description:	Student response in exit survey administered by the Biology Department.
Acceptable Target:	90% of students agree with senior exit survey questions pertaining to PSLO 1.

Findings for Student Exit Survey

Summary of Findings:	A total of eight students filled out the exit surveys and identified their degree as Environmental Biology BS/BA. Of these all eight indicated Excellent of Very good to the relevant questions.
Results :	Acceptable Target Achievement: Exceeded
Recommendations:	Student perceptions of the Department of Biology are overwhelmingly positive.
Reflections/Notes:	Student perceptions of the Department of Biology are overwhelmingly positive.

PSLO 2

Outcome: Demonstrate complex interrelationships

Demonstrate the complex interrelationships amongst ecological and evolutionary forces and how they influence organisms, populations, and community function.

Measure: Course Embedded Assignment

Course level Direct - Student Artifact

Details/Description:	Performance in relevant sections of courses.
Acceptable Target:	85% Earn a B or better average in quizzes and exams in the ecology labs in the BI 103 course and all labs in BI 310

Findings for Course Embedded Assignment

Summary of Findings:	90.9% of students earned a B or better average in the relevant labs in BI 103 (n=11)* and 91.7% earned a B or better average in their BI 103 labs (n=12). *One student took BI 103 at another institution.
Results :	Acceptable Target Achievement: Met
Recommendations:	Students met targets
Reflections/Notes:	Given the small number of students, it may be necessary to lower the target to 80% as it was only possible to meet if no more than one student did not meet the threshold.

Substantiating Evidence:

Embedded Assignments PSLO2.xlsx (Excel Workbook (Open XML))

Measure: Course Grades

Course level Direct - Student Artifact

Details/Description:	Course grades in relevant courses.
Acceptable Target:	70% earn a B or better for BI 103; 70% earn a B or better average in BI 310 and BI 340

Findings for Course Grades

Summary of Findings:	82% of students earned a B or better in BI 103 (n=11)*, 92% of students earned a B or better in BI 310 (n=12), and 92% of students earned a B or better in BI 103 (n=12). *One student took BI 102 at another institution and grade was omitted (grade in equivalent course was a B).
Results :	Acceptable Target Achievement: Exceeded
Recommendations:	Student appear to be progressing well through these courses.
Reflections/Notes:	Given that ecology and evolution are key areas of interest for these students it is reasonable that they would be exceeding expectations.

Substantiating Evidence:

Grades PSLO2.xlsx (Excel Workbook (Open XML))

Measure: Major Field Test

Program level Direct - Exam

Details/Description:	The Major Field Test in Biology is a national exam used to assess mastery of concepts, principles and knowledge by graduating Biology students. The use of this test allows us to compare the performance of our students relative to those at approximately 1,500 accredited four year institutions. The test is organized into four major areas: cell biology; molecular biology and genetics; organismal biology; and population biology, evolution and ecology.
Acceptable Target:	Mean student score above the national standard in the “population genetics, evolution, and “ecology” subsection of the exam.

Findings for Major Field Test

Summary of Findings:	The average score for the 10 students that were able to take the Major Field Test* was above the national average** for the "population biology, evolution and ecology" subsection. *Unfortunately, due to COVID restrictions in the spring of 2020 we were unable to administer the exam to two students. **The national average varies across years and therefore I weighted the national average by the number of Environmental Biology students taking the exam in the given year.
Results :	Acceptable Target Achievement: Met
Recommendations:	Students had their highest score in this section (almost a standard deviation higher), we seem to be doing a decent job in this section.

Reflections/Notes: Given the small number of students that take the exam the average score can be easily swayed by a few excellent or poor students. Therefore it may be better to change the target to proportion of students within or above one standard deviation of the national average.

Substantiating Evidence:

Major Field Test for PSLO2.xlsx (Excel Workbook (Open XML))

PSLO 3

Outcome: Explain the scientific process
Explain the scientific process and be able to discriminate between different approaches to science.

Measure: Course Embedded Assignment
Course level Direct - Student Artifact

Details/Description: Performance in relevant sections of courses.

Acceptable Target: 85% Earn a B or better in 1 lab in the BI 103 course and 3 labs in BI 310 that specifically address the scientific process; 70% achieve an 85% or better in BI 103 exams regarding relevant section and BI 310 embedded questions in the final exam.

Findings for Course Embedded Assignment

Summary of Findings: 90 .9 % of students earned a B or better average in both the relevant BI 103 lab and relevant exam (n=11)*, 100% earned a B or

	better average in the 3 relevant BI 310 labs (n=12), and 83.3% earned a B or better average in the BI 310 embedded final exam questions (n=12). *One student took BI 103 at another institution and one student took a course prior to 103.
Results :	Acceptable Target Achievement: Exceeded
Recommendations:	Students appear to be performing well and meeting the desired targets.
Reflections/Notes:	The labs in BI 310 and labs, quizzes, and lab exams in BI 103 do a good job of directly addressing this PSLO. However, recently I have begun to use a mini-review assignment that I feel provides a much better tool than the embedded questions in BI 310. Moving forward I would like to amend the assessment plan to use this assignment instead of the embedded question.

Substantiating Evidence:

Embedded Assignments PSLO3.xlsx (Excel Workbook (Open XML))

Measure: Course Grades
Program level Direct - Student Artifact

Details/Description:	Course grades in relevant courses.
Acceptable Target:	75% earn a B or better in BI 395; 70% earn a B or better average for all other core courses.

Findings for Course Grades

Summary of Findings:	Students tend to highly enjoy their BI 395

	(Research in Biology) course and all students earned a B or higher in the course. 75% earned a B or better average in their core courses (n=12).
Results :	Acceptable Target Achievement: Exceeded
Recommendations:	The BI 395 course should be continued.
Reflections/Notes:	In retrospect the use of student grades in core courses seems redundant given its use in PSLO 1. Therefore, I would like to remove it form this section in the future.

Substantiating Evidence:

Grades PSLO3.xlsx (Excel Workbook (Open XML))

Measure: Exit Survey
Program level Indirect - Survey

Details/Description:	Student response in exit survey administered by the Biology Department.
Acceptable Target:	90% of students agree with senior exit survey questions pertaining to PSLO 3.

Findings for Exit Survey

Summary of Findings:	A total of eight students filled out the exit surveys and identified their degree as Environmental Biology BS/BA. Of these all eight indicated Excellent of Very good to the relevant questions.
Results :	Acceptable Target Achievement: Exceeded
Recommendations:	Student perceptions of the Department of Biology are overwhelmingly positive.

Reflections/Notes:	Student perceptions of the Department of Biology are overwhelmingly positive.

PSLO 4

Outcome: Basic biology of major taxonomic group
Identify, recognize, and recall the basic biology of at least one major taxonomic group.

Measure: Course Embedded Assignments
Course level Direct - Student Artifact

Details/Description:	Performance in relevant sections of courses.
Acceptable Target:	85% Earn a B or better average in quizzes and exams related to organism identification and anatomy labs in the BI 103 course and 75% earn a B or better in lab components of BI 302, BI 303, BI 305, BI 322, BI 315, or BI 324.

Findings for Course Embedded Assignments

Summary of Findings:	54.5 % of students earned a B or better average in the relevant BI 103 quizzes and exams (n=11)* and 83.3 % earned a B or better average in the relevant lab components of elective courses (n=12). *One student took BI 103 at another institution and one student took a course prior to 103.
Results :	Acceptable Target Achievement: Not Met
Recommendations:	Our student performance in the organismal identification and anatomy components in

the BI 103 course seems to need improvement. Informally, those of us that teach BI 103 have felt that we have placed far too much information in this section of the course and have begun to address this issue.

For the grade in organismal components of labs in upper division electives, the target was met and only two students did not earn a B or higher average. For one of these students this was largely due to personal issues not related to the course (student was my advisee).

Reflections/Notes: It is fairly clear we need to improve the organismal ID portion of the BI 103 course. Fortunately, we have already begun to work on this over the past year.

The organismal lab components of upper division elective courses seems to be going well.

Substantiating Evidence:

Embedded Assignments PSLO4.xlsx (Excel Workbook (Open XML))

Measure: Course Grades
Program level Direct - Student Artifact

Details/Description: Course grades in relevant courses.

Acceptable Target: 70% earn a B or better average in BI 103 and BI 301, BI 302, BI 303, BI 305, BI 322, BI 315, or BI 324

Findings for Course Grades

Summary of Findings: 81.8 % (n=11) of students earned a B or

	better average in BI 103 and 83.3 % (n=12) earned a B or better in their organismal elective courses.
Results :	Acceptable Target Achievement: Exceeded
Recommendations:	Student performance in these courses is meeting our desired targets.
Reflections/Notes:	Students tend to to do fairly well in their organismal elective courses as they are often the reason they became interested in this area of biology. Here our results were not higher primarily due to low performance by students due to personal issues unrelated to the courses.

Substantiating Evidence:

Grades PSLO4.xlsx (Excel Workbook (Open XML))

Measure: Major Field Test
Program level Direct - Exam

Details/Description:	The Major Field Test in Biology is a national exam used to assess mastery of concepts, principles and knowledge by graduating Biology students. The use of this test allows us to compare the performance of our students relative to those at approximately 1,500 accredited four year institutions. The test is organized into four major areas: cell biology; molecular biology and genetics; organismal biology; and population biology, evolution and ecology.
Acceptable Target:	Above the national standard in the “organismal biology” subsection of the exam.

Findings for Major Field Test

Summary of Findings:	The average score for the 10 students that were able to take the Major Field Test* was above the national average** for the "organismal biology" subsection. *Unfortunately, due to COVID restrictions in the spring of 2020 we were unable to administer the exam to two students. **The national average varies across years and therefore I weighted the national average by the number of Environmental Biology students taking the exam in the given year.
Results :	Acceptable Target Achievement: Met
Recommendations:	Students performed slightly higher than the national average, indicating they are on par with students at other institutions.
Reflections/Notes:	Given the small number of students that take the exam the average score can be easily swayed by a few excellent or poor students. Therefore it may be better to change the target to proportion of students within or above one standard deviation of the national average.

Substantiating Evidence:

Major Field Test for PSLO4.xlsx (Excel Workbook (Open XML))

PSLO 5

Outcome: Design experiments and interpret data

Design experiments and analyze and interpret basic scientific data.

Measure: Course Embedded Assignments
Course level Direct - Student Artifact

Details/Description:	Performance in relevant sections of courses.
Acceptable Target:	90% Earn a B or better average in 2 labs in BI 103 and 4 labs in BI 310 that address experimental design and/or data analysis.

Findings for Course Embedded Assignments

Summary of Findings:	100 % of students earned a B or better average in the relevant BI 103 (n=11) and BI 310 labs (n=12)*. *One student took BI 103 at another institution and one student took a course prior to 103.
Results :	Acceptable Target Achievement: Exceeded
Recommendations:	This result is exceptionally encouraging, but I do not believe will likely be replicated. I actually recommend that we lower the 90% threshold to 80 % to be more realistic.
Reflections/Notes:	I believe this exceptionally high result is a bit of an anomaly and likely due to only 11-12 students graduating with an EB degree in the last 3 years.

Substantiating Evidence:

Embedded Assignments PSLO5.xlsx (Excel Workbook (Open XML))

Measure: Course Grades

Program level Direct - Student Artifact

Details/Description:	Course grades in relevant courses.
Acceptable Target:	85% earn a B or better average in BI 395; For BS 70% also earn a B or better in BI 314, MA 140, or MA 145.

Findings for Course Grades

Summary of Findings:	Students tend to highly enjoy their BI 395, Research in Biology, experiences and perform exceptionally well. All students earned a B or higher in this course. 91.7 % (n=12) of students earned a grade of B or higher in their statistics course (BI 314 or MA 140).
Results :	Acceptable Target Achievement: Exceeded
Recommendations:	Students are performing well in this section.
Reflections/Notes:	Ideally I would like more biology students taking BI 314 as it is more directly targeted for them, but I am very happy at how well their performing here.

Substantiating Evidence:

Grades PSLO5.xlsx (Excel Workbook (Open XML))

Measure: Exit Survey

Program level Indirect - Survey

Details/Description:	Student response in exit survey administered by the Biology Department.

Acceptable Target:	90% of students agree with senior exit survey questions pertaining to PSLO 5.

Findings for Exit Survey

Summary of Findings:	A total of eight students filled out the exit surveys and identified their degree as Environmental Biology BS/BA. Of these all eight indicated Excellent of Very good to the relevant questions.
Results :	Acceptable Target Achievement: Exceeded
Recommendations:	Student perceptions of the Department of Biology are overwhelmingly positive.
Reflections/Notes:	Student perceptions of the Department of Biology are overwhelmingly positive.

Measure: Oral and Written Presentations

Program level Direct - Student Artifact

Details/Description:	Assessment of oral presentations or written assignments has been conducted in the BI 390 course. Starting in the Fall of 2021 we will also be implementing written assignments that will follow the same rubric in the following core courses BI 103, 310, and 340.
Acceptable Target:	Critical Thinking Rubric - 90% of environmental biology majors are at target (3) level for all rubric components in seminar course. *Starting in Fall 2021 70% of students achieve target level in final papers for "Explaining Scientific Concepts", "Interpreting Scientific Data", and "Presenting conclusions and future experimental directions" sections of "Written Communication-Rubric"

Supporting Attachments:

scientific critical thinking rubric.pdf (Adobe Acrobat Document)

written communications rubric (Adobe Acrobat Document)

Findings for Oral and Written Presentations

Summary of Findings:	Students tend to do very well in the BI 390 course and all students met or exceeded the target threshold. Of the current graduated cohorts no students took BI 103, 310, or 340 in Fall 2021 or Spring 2022.
Results :	Acceptable Target Achievement: Exceeded
Recommendations:	The BI 390 course culminates in a public presentation, which I believe makes students take the course very seriously.
Reflections/Notes:	Students are performing well and hopefully students will also perform well final papers instituted in Fall 2021.

Substantiating Evidence:

oral and written presentations PSLO5.xlsx (Excel Workbook (Open XML))

Measure: Original Research Outcome

Course level Direct - Student Artifact

Details/Description:	All Environmental Biology students are required to conduct BI 395 research at the end of which all students have to present their work or write a report. Assessment of presentations or written report will be conducted following the attached rubric.

Acceptable Target:	Critical Thinking Rubric - 90% of environmental biology majors are at target (3) level for all rubric components.

Supporting Attachments:

scientific critical thinking rubric.pdf (Adobe Acrobat Document)

Findings for Original Research Outcome

Summary of Findings:	As previously stated, students have generally been very enthusiastic about their activities in BI 395 and all students were able to present or participate in the development of a poster presentation. All students were evaluated at target or above for all rubric components.
Results :	Acceptable Target Achievement: Exceeded
Recommendations:	BI 395, biology research, is a great opportunity and hopefully we will continue to offer this course.
Reflections/Notes:	Due to the pandemic not all students had the opportunity to personally present their work. However, they all worked on presentations or poster displays and were engaged in the research process.

Substantiating Evidence:

Crit. PSLO5.xlsx (Excel Workbook (Open XML))

PSLO 6

Outcome: Oral and written presentation
Explain scientific information in oral and written presentation in a clear and professional manner.

Measure: Course Embedded Assignments
Program level Direct - Student Artifact

Details/Description:	Students have conducted oral presentations in BI 103, BI 310, and BI 340 through the spring of 2021. These are assessed using the "Oral Communication Rubric" designed for our capstone course BI 390. Starting in the Fall of 2021, the BI 103 and BI 310 courses have begun using final papers and will be assessed using the "Written Communication-Rubric".
Acceptable Target:	90% of environmental biology majors earn a C or better in presentations or final papers in BI 103, BI 310, and BI 340. Oral Communication Rubric - 90% of environmental biology majors are at target (3) level for all rubric components in seminar courses. *Starting in Fall 2021 70% of students achieve target level in final papers for "Explaining Scientific Concepts" and "Interpreting Scientific Data" sections of "Written Communication-Rubric".

Supporting Attachments:

- oral communication rubric.pdf (Adobe Acrobat Document)
- written communications rubric (Adobe Acrobat Document)

Findings for Course Embedded Assignments

Summary of Findings:	100 % (n=12)* of students earned a C or better in their graded presentations or written papers. 91 % (n=12) had their presentations in the three courses meet the target designation on the rubric. *One student took BI 103 at another

	institution, but that individuals grades in the other two courses were used for this evaluation.
Results :	Acceptable Target Achievement: Exceeded
Recommendations:	The 70% threshold in presentations is likely a little too low. However, our students tend to perform better on presentations than written assignments. For this reason, as we transition to more written assignments the 70 % threshold is likely appropriate and should be kept.
Reflections/Notes:	Students have been performing overwhelmingly well in presentations. We hope that as we increase the number of written assignments their performance in written communication will be equally high.

Substantiating Evidence:

Embedded Assignments PSLO6.xlsx (Excel Workbook (Open XML))

Measure: Course Grades
Program level Direct - Student Artifact

Details/Description:	Course grades in relevant courses.
Acceptable Target:	85% earn a B or better average in BI 390.

Findings for Course Grades

Summary of Findings:	As previously stated students perform fairly well in the 390 course and all students scored at the target level or above.
Results :	Acceptable Target Achievement: Exceeded
Recommendations:	Students are performing well.

Reflections/Notes:	Students oral communication skills are well developed (despite a universal fear of oral presentations).

Measure: Exit Survey
Program level Indirect - Survey

Details/Description:	Student response in exit survey administered by the Biology Department.
Acceptable Target:	90% of students agree with senior exit survey questions pertaining to PSLO 6.

Findings for Exit Survey

Summary of Findings:	A total of eight students filled out the exit surveys and identified their degree as Environmental Biology BS/BA. Of these all eight indicated Excellent of Very good to the relevant questions.
Results :	Acceptable Target Achievement: Exceeded
Recommendations:	Student perceptions of the Department of Biology are overwhelmingly positive.
Reflections/Notes:	Student perceptions of the Department of Biology are overwhelmingly positive.

Measure: Oral and/or Poster Presentation
Program level Direct - Student Artifact

Details/Description:	Students conducting BI 395 in Environmental

	Biology are often able to present at regional or national conferences.
Acceptable Target:	70% of students present at least once at a conference.

Findings for Oral and/or Poster Presentation

Summary of Findings:	Ten out of 12 students (83. 3%) of students had their work presented at conferences. However, due to the pandemic for several of these students these were group poster presentations at virtual conferences. Therefore, although the threshold was exceeded, it is not what we would have ideally seen,
Results :	Acceptable Target Achievement: Exceeded
Recommendations:	Students should continue to be encouraged to have their work presented at conferences.
Reflections/Notes:	Hopefully now that virtual conferences are becoming better designed and in person conferences are returning, we will see active participation in conferences return.

Substantiating Evidence:

Work presented at conferences.xlsx (Excel Workbook (Open XML))

Overall Recommendations

Overall the Environmental Biology students assessed are meeting or exceeding the PSLO's established. There was only one threshold that was not met regarding organismal identification in one of our introductory courses

BI 103. However, this was an issue we had already identified and have already begun to address. Therefore, I believe that in general the program is running well.

There are some areas where we need to assess the metrics being used, because, due to the small number of students in the program, the performance of a couple of students can easily weigh the results. We are planning on investigating a few alternatives during the next year.

As stated earlier, my primary recommendation is that the program should be assessed yearly 2 PSLO's at a time rather than having all PSLO's assessed every four years.

Overall Reflection

This assessment cycle marks the first instance of addressing findings in the taskstream system for this program and fortunately the results are encouraging. The records had been being maintained, so they were not surprising, but certainly indicate that we have been meeting our goals.

Overall there are two sections we need to consider more clearly:
1) We have to consider the importance of small sample sizes and how they influence our assessment.
2) We need some help with our "Communication" components. Unfortunately, due to labs and student research our ability to attend C-Tel workshops is limited and identifying clear external stakeholders is difficult. We will be bringing this up during our upcoming faculty meeting to attempt to identify some solutions.

Faculty Collaboration

There are three faculty members with specialties in Ecology, Evolution, and Behavior in the Biology Department (Drs. Jason Emry, Benjamin Reed, and Rodrigo Mercader) and we are the faculty primarily involved in the Environmental Biology program. Fortunately, the three of us work together to co-teach the core BI 103 Organismal Biology Course (all three discuss changes even in semesters in which one of us is not involved with the course), actively discuss teaching techniques and introducing complementary assignments in our classes, and collaborate on research projects with students. Not surprisingly, we work very closely on assessment practices, curriculum changes, and teaching practices in general.

We also formally discuss any assessment results with the Department during our faculty meetings, usually during the first meeting of the Fall semester. Fortunately, the Department of Biology as a whole is very receptive to discussing curricular changes and ideas for assessment. Therefore, the line of communication amongst the faculty to implement ideas to improve student learning is fairly active.

Communication & Collaboration with Students

Although, we have a formal exit survey in which we get feedback from students, clear syllabi, and advising materials in my experience most meaningful communication regarding assessment occurs informally. Most students are not very interested in assessment practices in general. However, several are very interested in

understanding the reason for why they take the courses they take, the content of courses, and how these will help them in the future. As I am certain occurs across campus, during advising sessions we have the opportunity to discuss with students how the curriculum works towards their goals and we receive plenty of information regarding their perception of courses. In addition, in our program we are fortunate that a major component of their assessment is conducting research with a biology faculty member. For Environmental Biology this often involves extensive time working in the lab or field with the faculty advisor (Drs. Emry, Reed, or Mercader). During these time periods we are fortunate to get less edited responses regarding the curriculum and have a reasonable impression of student perception of our curriculum.

Communication & Collaboration with External Stakeholders

For the Environmental Biology BS/BA there are no specific advisory boards for programs and the employers/ community is very broad. In the past the Department of Biology would make assessment results available through the departmental website. However, we currently do not have the ability to edit the website and we are in the process of trying to gain this access again or have it be done for us. For these reasons, communication has been primarily receiving information from external stakeholders. Therefore, while directly collaborating with external stakeholders has not been possible, we have been responding directly to external stakeholders suggestions (e.g. the Ecological Society of America and graduate programs).

-The one source of direct communication with external stakeholders has been during conferences. Drs. Emry and Mercader have had the opportunity to participate in at least one conference session regarding teaching/ assessment practices in the last four years (Botanical Society of America and Entomological Society of America) respectively.

-Although, there is no program advisory board, the Ecological Society of America has had a relatively recent push to redefine their curricular recommendations for undergraduates in Ecology programs (broadly defined) and strengthen their Ecologist certification program (for individuals not programs). The new recommendations emphasize four major areas: Core Ecology Concepts, Ecology Practices, Human-Environment Interactions, and Cross-cutting themes. The Environmental Biology program does follow the recommendations set up by the Ecological Society of America. However, we have been working towards make this connection clearer and particularly to ensure our graduates can apply for the Ecologist in Training designation and Associate Ecologist designation after 1 year of professional experience. Please see link below for more information
https://www.esa.org/certification/certification-requirements-checklist/

-One of the primary external stakeholders for our graduates are graduate schools. For this reason, I talk with colleagues (including those that have taken some of our students) regarding what is desired from students and look at what schools desire. I discuss this information with students and post relevant material for students on my personal website for their access.
Please see the link below
https://sites.google.com/site/wuinsectplants/useful-links-for-environmental-biology-students

Communication & Collaboration with University

During the time period in which the transition to taskstream began, we had a fair amount of communication with the Assessment coordinator. As we hopefully transition towards a yearly (rather than every four years) program assessment schedule we hope to once again keep in closer contact with Assessment.

Unfortunately, due to our lab schedules and student research commitments we have only been able to observe recorded assessment workshops, rather than actually participate in them in the last year. We will bring this issue up at our next faculty meeting to try to strategize how to be able to attend more or develop our own C-Tel assessment activities.

Although we have not applied for internal grants for assessment projects. We have applied for monies to improve our curriculum in response to our assessment. Dr. Mercader recently (summer 2022) completed a CAS summer fellowship to improve the curriculum for Environmental Biology students and this information has been communicated. The title of the summer fellowship was, Expanding Opportunities for Students Interested in Environmental and Population Biology. The purpose of this summer fellowship was to improve our alignment with the curricular recommendations presented by the Ecological Society of America.

Last Modified: 08/15/2022 08:16:35 PM CST