Agenda and Evaluation Report for
Audit & Review Face-to-Face Meeting
University of Wisconsin-Whitewater
Biology Majors and Minors, 2020-2021

Date: 5/12/2021
Time: 9-10am
Place: Webex

Invited: Interim Provost Greg Cook; Interim AVC Kristin Plessel; Dean Frank Goza (L&S); Department Chair/Program Coordinator Kerry Katovich; faculty and staff in the Biology program; Audit & Review Team Chair James Collins; Audit & Review team members Lynn Gilbertson, Denise Roseland, Rachel Chapalkar, Assessment Representative Katy Casey

1) Call to order 9:01 a.m.

2) Introductions

3) Overview of review team evaluation, program comments
   a) Professor Katovich clarified some discrepancies in the Dashboard enrollment numbers for EEB emphasis. There are a couple routinely low emphases (honors and BSE), but not EEB.

4) Discussion of Review Team's evaluation:

   a) The review team discussed a few of the emphasis areas that had consistent low-enrollment (e.g., null, honors, ecology-evolution-and behavior, and education). What are the current active emphases in Biology? All have enrollment of 1-3 students over a 5-year period. Could these be a resource strain?
      i) Pre-biomedical, cell-physiology, and Ecology, Evolution, and Behavior (EEB) are running well with sufficient enrollment. Some emphases have historically been low and we have discussed addressing the issue. Having some emphases with low enrollment is not a resource strain- these do not require additional courses or staffing. However, within the year the department will discuss what to do with the honors emphasis- which may be altered or dropped.
      ii) There are likely students in the University Honors program who are not reflected in the Biology Honors numbers.

   b) Could an advisory board help to support creative problem solving with student placements, internships, and the advising process?
      i) An external board might help provide guidance on how students can apply what they learn in the program to the field. Could businesses play a role and invest in the infrastructure of the program?
      ii) The program has talked to COBE in the past about internships and seems interested in continuing these discussions.
      iii) Program shared information on the previous Science Alliance group that included alumni, and served as an advisory board- the Science Alliance group is now called the Dean's Advisory board. The Dean asked the program to share any information the program has about alumni, or businesses with interests in Biology, that might be interested in participating on the advisory board.
      iv) Environmental Science has connections to professions and students often get connected to fields through this emphasis.
      v) Biology Forum course brings in alumni and guests from the field- often in the form of a panel discussion to provide professional perspectives and career advice.
      vi) Many ideas were generated through this discussion. The program will connect with Dean Goza to discuss more engagement with the Dean's Advisory Board.

   c) How are standardized test data (e.g., MCAT, GRE, etc.) being used to drive program decisions? How is the program preparing students to be successful on these exams?
      i) Standardized tests are used partially as directions for what the field is looking for and sometimes changes

to curriculum are made based on the test content. For example, as GRE included more Bio-chemistry, the program made some topic adjustments in courses to address this content.

ii) Advising plays an important role in helping students prepare for exams they may need to take to meet professional goals (e.g., MCAT).

iii) Program does not see the data from these exams consistently.

iv) Clarified that tests are used to help with the program structure and curricular content decisions, but the test results are not necessary for determining progress on SLOs. Therefore, the review team recommends removing tests and related results from assessment plan unless the data from these tests will be used consistently to report on student progress through the program.

d) The Provost noted the strengths of the programs and views it as foundational to the University. Dr. Cook commented on resources, and pointed out that the Dean does not have resources to provide at this time. He also noted the necessity of securing needed resources for foundational and excelling programs, such as Biology. He recommended engaging in faculty governance to help develop sustainable ways to secure resources. The only way to secure resources at this point in time is to reconsider how we allocate resources across the University.

e) Dean Goza noted how exceptional the program is and how hard the chair works to advocate for the needs of the program. He commented that any resource shortage was not due to a lack of advocacy or awareness of issues.

5) **Recommended Actions**: The evaluation report lists four recommended actions (see page 12, point 4) related to assessment, programming and resources.

6) **Recommended Result**: *Continuation with minor concerns*

- **Please make use of the detailed comments in the evaluation report (below).**
- **Please select all applicable boxes and fill in the appropriate year:**

  X **Next FULL self-study will be due to the Dean on October 1, 2025 to the Assessment Office and on November 1, 2025.**

7) Adjourn 10:10

Review team report is attached below, including Recommended Actions and instructions for Progress Reports (if required).

University of Wisconsin-Whitewater
Committee Form: Review of Audit & Review Self-Studies
Undergraduate Programs, 2020-2021
Majors/Minors and Standalone Minors

Date of Evaluation 4/29/2021 Short Self Study (SS*)_____
Program: Biology Major ☒ Minor ☒

Evaluations submitted by: Denise Roseland, Katy Casey, Rachel Chaphalkar, Lynn Gilbertson, James Collins
Review meeting attended by: Denise Roseland, Katy Casey, Rachel Chaphalkar, Lynn Gilbertson, James Collins

I. General Program Information

1. The program's mission statement reflects the nature and scope

Sufficient Evidence	5
Some/Partial Evidence	0
No/Limited Evidence	0

2. The program is aware and reflective of changes affecting improvement since the last review.

Sufficient Evidence	3
Some/Partial Evidence	2
No/Limited Evidence	0

3. Characteristics of the program set it apart from others when compared regionally and nationally. The unique aspects of the program attract students.

Sufficient Evidence	3
Some/Partial Evidence	2
No/Limited Evidence	0

4. The program has been responsive to actions recommended from the previous Audit and Review Reports; Progress Reports have been submitted, if relevant.

Sufficient Evidence	3
Some/Partial Evidence	2
No/Limited Evidence	0

5. The program has achieved or maintained program-level accreditation or has considered seeking it, where appropriate (only select N/A if there is no accreditation available).

Sufficient Evidence	0
Some/Partial Evidence	0
No/Limited Evidence	0
N/A	5

General Comments related to Section I

I.2. The program provided a copy of the progress report from 2018. The PR review team recommended the following for the 2020 self-study: "The next self-study report should address the same recommended actions since progress in these areas is ongoing: Updates on getting labs and offices back in working order; results from assessment projects and resulting changes to curriculum; strategic/five-year plans, including timetable and implementation ideas; and an update on advising staff concerns. Please explicitly list any grants that have been sought for capital funds." These might be addressed elsewhere in the report.

3. The Marine Biology and Freshwater ecology program is unique in the region. The ability to participate in UG research has many students included. 4. This seems true up to dealing with changes from COVID-19.

A clear emphasis on undergraduate research, internships, mentoring, and field experience. Significant evidence-based changes to decrease DFWI rates.

II. Alignment within the University

1. The program contributes to the fulfillment of UW-Whitewater's Mission and Strategic Plan.

Sufficient Evidence	5
Some/Partial Evidence	0
No/Limited Evidence	0

2. The program supports general education and/or proficiency programs at the University.

Sufficient Evidence	5
Some/Partial Evidence	0
No/Limited Evidence	0

3. The program is collaborative and supports other academic programs across the College and/or University.

Sufficient Evidence	4
Some/Partial Evidence	1
No/Limited Evidence	0

General Comments related to Section II

1. The department has a strong record of supporting URM students within the major. They provide many opportunities (UG research, field work, study abroad, use of equipment) for students. 2. Most of this support is through Bio 120 (GL), however, it seems like this is partially being reduced due to budget to make sure that the majors have the classes they need to graduate.

Program requirements span chemistry, physics, psychology, environmental science, geography and geology.

2-3. Students in the program are quite involved with courses offered through the Chemistry department. The Biology program offers three courses that count as GL credits and one that is GE. Other major/minor programs (e.g., Occupational Safety, Environmental Management, Social Work, Environmental Studies, Forensic Science Criminal Justice, etc.) require students to complete Biology coursework as well.

III. Program Goals & Accomplishments

1. Goals and objectives were identified and undertaken to improve/advance the program.

Sufficient Evidence	5
Some/Partial Evidence	0
No/Limited Evidence	0

2. Goals currently in place will contribute to the program's advancement. Criteria for determining success were measurable and attainable.

Sufficient Evidence	2
Some/Partial Evidence	3
No/Limited Evidence	0

3. The program has a process for setting and assessing goals and making decision about changes to the program.

Sufficient Evidence	4
Some/Partial Evidence	1
No/Limited Evidence	0

General Comments related to Section III

Many program goals are related to "maintaining" current practices. The program recognizes the need to adjust to current staffing challenges. The process in place with weekly time allotted to program/department meetings seems to work for Biology.
1. It seems they were making progress before COVID-19. 2. I am not sure the goals are measurable. I am not sure they are attainable with the budget situation. 3. Again, it seems that this has suspended since the pandemic began (though might be reinstated at this time.)
Highlights of the achievements of the faculty and students serve as clear evidence of the program's commitment to high quality inclusive practices and experiences.
1. The addition of new course delivery options for non-traditional students is welcome change and I imagine that it will help to increase enrollment as well. 2. The 10 listed goals on p. 3 appear reasonable and nicely developed; however, what criteria are being used to determine if they are successfully reached?

IV. Curriculum

1. The program has a clearly articulated, efficient, and purposeful curriculum.

Sufficient Evidence	5
Some/Partial Evidence	0
No/Limited Evidence	0

2. The program prepares students in majors, minors, and related emphases tracks in post-graduation and other applicable experiences.

Sufficient Evidence	5
Some/Partial Evidence	0
No/Limited Evidence	0

3. Appropriate assessment data were used in making curricular revisions.

Sufficient Evidence	3
Some/Partial Evidence	2
No/Limited Evidence	0

4. Students participate in the high impact practices.

Sufficient Evidence	5
Some/Partial Evidence	0
No/Limited Evidence	0

General Comments related to Section IV

The Biology program offers students a wide array of options through various emphasis tracks. The faculty and staff recognize students' desire to have flexibility and choice in the curriculum. The graduation rate is impressive and is likely supported by the attentive advising model. Assessment data are collected and some results were shared. However, the link between SLOs, measurement tools, finds were not that clear. The program measures its success based on exit measures: surveys, test scores (e.g., MCAT), student self-reports through the exit data and employment and graduate school admission. High impact practices are encouraged.

Rich evidence of assessment.

1. Some internships were revised to improve clarity and efficiency of delivery. Program maintains high graduation rates and students on-track to graduate within 4 years. Challenges were noted with scheduling due to other departments requiring students to take classes/labs four days per week, which limits students' ability to take a variety of other coursework. Additional Biology online/hybrid options have been created to help mitigate scheduling conflicts. 3. Additional course offerings (particularly 200 and 300 level courses) were made in response to collected assessment data, as well as increased flexibility and personalization of emphases to meet the needs of students' terminal fields of work.

V. Assessment of Student Learning

1. The program has clearly articulated learning outcomes for students.

Sufficient Evidence	5
Some/Partial Evidence	0
No/Limited Evidence	0

2. Student learning outcomes are "mapped" to the curriculum.

Sufficient Evidence	5
Some/Partial Evidence	0
No/Limited Evidence	0

3. The program provided a timeline indicating when faculty and staff assess SLOs. The timeline is manageable and sustainable.

Sufficient Evidence	0
Some/Partial Evidence	4
No/Limited Evidence	1

4. The program collected a variety of appropriate assessment data allowing judgements about the extent to which students are achieving learning outcomes.

Sufficient Evidence	2
Some/Partial Evidence	3
No/Limited Evidence	0

5. Program faculty consider assessment data in making changes to the curriculum, students' learning outcomes, and/or other aspects of the program.

Sufficient Evidence	4
Some/Partial Evidence	1
No/Limited Evidence	0

6. Student learning outcomes are aligned with the LEAP Essential Learning Outcomes in a way that is reasonable and meaningful.

Sufficient Evidence	5
Some/Partial Evidence	0
No/Limited Evidence	0

7. Overall, the program has an appropriate assessment plan for measuring students' progress in attaining the outcomes.

Sufficient Evidence	3
Some/Partial Evidence	2
No/Limited Evidence	0

General Comments related to Section V

The program has clear SLOs aligned to LEAP ELOs. These are mapped to the core curriculum. I think the program has all the elements of the assessment plan, but they were not all present in the report. For example, the report referenced embedded assessments without a description or how they inform program practices and curriculum. Using the assessment plan template might be beneficial to the program to help organize the process and report out on findings.

5. Course revisions were made to high DFW rate courses. 7. It seems the assessment plan is revised most semesters (maybe missing 2019-2020?) It is somewhat unclear which SLO is being assessed for each ongoing project.

2. Learning goals were mapped to classes. Are there certain spots where the content is introduced, developed, and then later assessed? 3. When are the specific learning goals assessed and in what manner? I see the classes that the learning goals are covered, but not when/how they are assessed. 4. The program noted that assessment efforts have been reduced due to COVID. 7. It would be helpful to have a more granular view related to how and when specific learning goals are assessed. How does the program know when a goal has been reached?

VI. Student Recruitment, Enrollment, Retention, and Graduation:

A. Trend Data

1. Five-year enrollment and graduation trends reflect program vitality and sustainability.

Sufficient Evidence	5
Some/Partial Evidence	0
No/Limited Evidence	0

2. [MAJORS ONLY] Credits-to-degree show that students can complete the degree in four years, or reasonably efficiently.

Sufficient Evidence	4
Some/Partial Evidence	1
No/Limited Evidence	0

3. [MAJORS ONLY] Program has strategies to recruit and retain students.

Sufficient Evidence	3
Some/Partial Evidence	2
No/Limited Evidence	0

4. Composition of students approximates or exceeds the diversity of students at the University.

Sufficient Evidence	4
Some/Partial Evidence	1
No/Limited Evidence	0

5. Students can enroll in appropriate courses and proceed without delaying graduation.

Sufficient Evidence	4
Some/Partial Evidence	1
No/Limited Evidence	0

6. Claim that the program is oversubscribed, undersubscribed, or at optimum level is justified or supported by examples or data.

Sufficient Evidence	4
Some/Partial Evidence	1
No/Limited Evidence	0

General Comments related to Section VI.A

While there has been a steady decline of majors, it seems to be aligned with what the university is struggling with overall. What are the current active emphases in Biology? The three I am curious about, enrollment-wise, are null, honors, ecology-evolution-and behavior, and education- all have enrollment of 1-3 students over a 5-year period. The program is self-reported at optimal numbers (400-500). They appear to be on the verge of over-subscription when considering the number of minors.
3. The do not actively recruit students, but currently it seems they are over capacity. They are retaining URM students at a rate higher than the university average. 6. Their evidence has convinced me that they are oversubscribed.
1. Enrollment numbers have declined somewhat, yet more than 400 students are currently enrolled. 2. What an impressive number of emphases and minors!

Q41 - VI. Student Recruitment, Enrollment, Retention, and Graduation: B. Demand for Graduates 1. [MAJORS ONLY] Placement information indicates that program graduates find employment or continue their education.

Sufficient Evidence	3
Some/Partial Evidence	2
No/Limited Evidence	0

2. Data suggests that employment opportunities for graduates of this program will remain strong.

Sufficient Evidence	5
Some/Partial Evidence	0
No/Limited Evidence	0

General Comments for VI.B

1. There is a list of successful students, however it would have been nice to see an overall compilation of the students.
Given that health related fields are predicted to have high growth, how might the biology department support development of health-related degree programs or collaborate with existing allied health programs at UWW?
1. I was unable to locate placement information. The topic was noted on p. 27, but I couldn't find the actual data.

VII. Resource Availability & Development

A. Faculty and Staff Resources

1. Information on numbers of full and part-time faculty and staff are provided. Expertise of teaching staff are aligned with the needs and future vision for the program.

Sufficient Evidence	4
Some/Partial Evidence	1
No/Limited Evidence	0

2. Information is provided about changes in the faculty since the last Audit and Review.

Sufficient Evidence	5
Some/Partial Evidence	0
No/Limited Evidence	0

3. The program has identified staffing changes and anticipated areas of potential future need.

Sufficient Evidence	5
Some/Partial Evidence	0
No/Limited Evidence	0

General Comments related to section VII.A

The program makes a case for additional staff and faculty to support the program in teaching, service, and advising. Some unique feature warranting additional staffing include support of other programs (outside Biology majors and minors), maintaining smaller lecture sizes to support students- keeping DFWI rates down, maintaining flexibility in when courses are offered to support students in other programs, and managing labs.

3. It sounds like they have lost several positions and with so many faculty also serving partial appointments in other departments or administrative positions, they will not be able to maintain their program without hiring.

2. The program lost one academic staff member in 2020 and is down two additional faculty positions and another lab manager position. Additional personnel are needed. 3. The critical areas of need (noted on p. 32) were revealing. More flexibility with course offerings is needed due to conflicts with Chemistry and Physics and some smaller class size options are requested. Additional sections of classes are needed; graduation rates are expected to decline otherwise. Reduced funding has had a substantive impact on the program's ability to teach labs and provide necessary experiences for students. This may adversely impact recruitment. 1-2 retirements are also expected within the next 3-5 years.

VII. Resource Availability & Development

B. Student Resources

1. The program has adequate personnel, student help, and service and supplies to serve its undergraduate students.

Sufficient Evidence	1
Some/Partial Evidence	4
No/Limited Evidence	0

2. The program has adequate facilities equipment, technological, and library resources to effectively serve its students.

Sufficient Evidence	0
Some/Partial Evidence	5
No/Limited Evidence	0

General Comments for VII.B

The program reports that current supports are sufficient for the time being. However, they make a strong case for proactively addressing staffing and facility needs. This seems a program that could be derailed with the loss of necessary equipment and well-managed labs. The administrative responsibilities in this program (e.g., lab and supplies/facilities management, support of GenEd and other programs, and experiential opportunities) seems more significant than in other programs.

1. While looking for ways to save money, it seems there are substantial equipment costs that need to be planned for, and the academic staff members are not being compensated for academic advising of students or coordinating courses. The loss of the lab manager is also causing strain. 2. The program needs a larger budget to be able to maintain labs and equipment.

1. The program needs additional staffing and financial support. In particular, the lab manager position is of critical importance. 2. The program indicates a need for more resources, especially for maintenance of equipment.

VIII. Conclusions and Recommendations from the Department or Program

1. Areas of strength are discussed.

Sufficient Evidence	5
Some/Partial Evidence	0
No/Limited Evidence	0

2. Areas of improvement and continued progress are discussed.

Sufficient Evidence	5
Some/Partial Evidence	0
No/Limited Evidence	0

3. Recommendations and resources are discussed.

Sufficient Evidence	5
Some/Partial Evidence	0
No/Limited Evidence	0

General Comments for VIII

This program provides considerable support to the University's delivery on its mission, offers students across the university opportunities to satisfy gen eds and has done so with staffing, facilities, and budget shortcomings.

2. Writing bylaws needs to be written.

Much appreciation for the candor and the problem solving/ innovative spirit of the department.

3. The main issues center on financial support. The department is down more than 20% of faculty/staff and budget reductions have had a major impact.

VI. Reviewer Conclusions 1. Strengths of the Program

Curriculum is diverse, rooted in relevance, and thorough in its scope and sequence. SLOs and program outcomes are in place and the use of high impact practices are evident. Faculty are engaged in the College, University, the region, state, and nationally on important work related to teaching, diversifying STEM students and student pursuit of STEM fields, and research. Intensive, personalized advising

Strong enrollment. Faculty and staff are committed to student success - this is evident in the support for academics as well as the number of HIPs supported in the program. It seems the unique value of this program is in how it is managed and operated with intentional advising, manageable class sizes, and a number of hands-on, experiential opportunities for students.

The program serves many students with a high number of majors and quite a few minors. The students in the program have many opportunities to engage in High Impact Practices. Faculty are engaged in research, especially through conference presentations, and teaching related professional development.

The program is exceptional in their efforts to provide high impact practices specifically experiential learning and the focus on pedagogy and content in introductory courses to decrease DFWI rates.

Impressive enrollment, strong faculty, important (and ever-growing) field of study, student research opportunities, student-centered advising, and unique areas of emphases.

2. Areas for Work or Improvement

Clarified assessment plan - it is clear this work is being done and could probably be structured in a more concise manner. Review of program emphases to determine if enrollment is aligned to resources.

The department needs to look at how to streamline in order to save time and improve their department culture/work/life balance. Perhaps advising and UR research could be done in small groups instead of individually. Perhaps the two low-enrolled emphases are not needed? Many field trips could be streamlined a little more to keep them but reduce costs. An advisory board might help with curriculum changes and closing the loop on assessment, as well as maybe helping students with career advice.

The areas for improvement were clearly articulated. Continue to utilize the innovation and expertise in the department to creatively resolve challenges.

Additional funding is necessary to ensure sustainability and quality of course offerings. Additional details related to the assessment plan are needed, especially how learning outcomes are measured and when the related content knowledge is introduced, developed, and assessed.

3. Other comments/questions

To continue to play the prominent role this program plays on campus, they need resources: staffing, materials, facilities especially.

Are there lab fees for lab classes? How does this get factored into budget?

This is an impressive program! The hurdles posed by COVID to a program that involves so much hands-on work is incredible.

4. Recommended Actions (please specify):

1. Use the assessment plan template to clarify structure of evaluating student learning in the program. Identification of embedded assessments within coursework is needed, as well as when content knowledge related to student learning outcomes is introduced, developed, and assessed.
2. Use assessment to see where you can streamline time-consuming activities such as advising and program management.
3. Consider seeking opportunities to engage in health sciences programming and other areas that are projected to have strong growth
4. Meet with the Dean to secure resources and develop a resource management plan to ensure stability and certainty for funding the program

5. Recommended Result

Insufficient Information in the self-study to make a determination; revise self-study & resubmit.	0
Continuation without qualification. Next self-study will be a shortened one focusing on the Recommended Actions from the current report.	1
Continuation with minor concerns. Progress report may be required, at the discretion of the review team.	4
Continuation with major concerns in one or more of the four areas; submit annual progress report to the College Dean & Associate Vice Chancellor for Academic Affairs on progress addressing the major concerns	0
Withhold recommendation for continuation, place on probation, and require another complete Audit & Review self-study within 1-3 years, at the Committee's discretion.	0
Withhold recommendation for continuation, place on probation, recommend placing in receivership within the college, and require another complete Audit & Review self-study within 1-3 years at the Committee's discretion.	0
Non-continuation of the program.	0
Report not submitted; refer to Provost for action.	0