

Progress report reviews are appended to the end of this document.

**Minutes and Evaluation Report for
Audit & Review Face-to-Face Meeting
University of Wisconsin-Whitewater
Biological Sciences Majors and Minors, 2015-2016**

Date: May 5, 2016

Time: 9:30 am – 10:50 am

Place: Upham 0322

Attended: Provost Susan Elrod; AVC Greg Cook; Dean David Travis; Department Chair Kerry Katovich; faculty and staff in the Biological Sciences program Catherine Chan, Kirsten Crossgrove, Kris Curran, Bruce Eshelman, Elisabeth Harrahy, Nadine Kriska, Bob Kuzoff, Anneke Lisberg, Heather Pelzel, Steph Vial, Brett Woods; Eric Appleton (Chair of A&R Review Committee), Audit & Review team members Paul House, Amy Verbos, Joan Cook

1. Call to Order & Introductions
2. Overview of review team evaluation, program comments
No particular/specific issues brought forward for early discussion; will discuss topics as they arise.
3. Review/Discussion of Recommended Actions
 - a. It was noted that the program made good progress on the recommended actions from their previous Audit & Review.
 - b. Discussion of resources
 - The program noted that in the past tenured faculty were offered a research lab upon joining program, the building has been modified steadily to accommodate lab and office needs, and that teaching spaces have been steadily lost due to office and lab conversion. When Upham was constructed, there was little/no planning for program growth but since then, they have increased significantly (from approx. 400 to 600 majors/minors). The faculty said that Upham Hall itself is best recruiting tool for STEM students, and that the programs in the building have the best tools in the UW System.
 - Dean Travis would prefer that faculty spend time on research grants rather than facilities grants. He asked whether faculty who aren't engaged in active research still need lab space and noted the need to make tough decisions about assigning and possibly repurposing spaces.
 - Space issues must be part of strategic planning, but there was discussion of the degree to which the department is responsible for/must be involved in bricks and mortar planning. There was discussion of what it means for a department to put forward a no-growth agenda in a university environment *with* a growth agenda, and how growth can be targeted and maintain program quality. It was noted that campus must be cognizant of building limitations, but that growth should be aligned with regional demand for majors, with the onus being on all of us to think creatively and seek alternatives.
 - Chair Katovich said that despite space limitations, the state of equipment is excellent. It was noted that external grants might help in procuring and maintaining equipment.
 - The Provost noted that UWW is in the midst of developing a new Strategic Plan. Part of the planning process will involve looking toward strategic growth and having conversations

about targeted growth and how it can be supported. Renovation and new spaces are tied to strategic planning

c. Assessment

- The program faculty noted that they wrote SLOs with the LEAP ELOs side-by-side, with specific intention of alignment. Senior exit interview/exam were also rewritten to align. The program is just starting to get baseline data from their assessment tools. The faculty noted that Biological Sciences was one of the first programs on campus to have an Assessment Committee. Many faculty members have used assessment data and feel that the program is on the forefront of using data for program improvement.
- Program faculty noted a perceived “moving target” in what is required regarding assessment, which makes it difficult to respond. Assessment does change and evolve, so a broad variety of assessment tools are encouraged. It’s evident that the program is making changes but those changes are not being reported consistently (common across many programs). A main goal is to provide information on what you expect students to know and be able to do upon graduation, and provide data that demonstrates whether/to what extent students are achieving those outcomes; assessment is the empirical component of teaching improvement. AVC Cook noted that the new CourseLeaf system might be useful as a tool to track assessment data and efforts.
- There was discussion of the program’s movement to include direct assessment measures in addition to the indirect measures of student satisfaction that are already in place. The program is encouraged to make sure to build in systematic opportunities to talk about the data, what it means for the program, and specific changes that might be considered based on the data.
- The general conclusion was that the program is moving forward and implementing assessment tools, but more effort can be made to track and report assessment-based changes.

d. Programming Planning and Vision

- Addressed in prior discussion of resources

e. Tracking graduates

- Chair Katovich said the program has been successful in tracking graduates due to their professional paths, but this has mostly consisted of student self-reports. There was discussion of possible campus support in tracking graduates, and the department noted that the Alumni Association calls departments for information on graduates (rather than providing information). Centrally, campus needs to do a better job. Dean Travis noted that it’s not the department’s responsibility to track graduates, but that the department will be asked to support and contribute to tracking efforts.

4. Concluding Comments

- a. Dean Travis said the department does great work. He acknowledged there are concerns regarding some items (such as space) that are beyond the program’s control but still should be discussed.
- b. Chair Katovich said the department vision has focused on sustaining quality. He acknowledged that plans for the future could include more specific items with greater clarity on those items.

- c. There was discussion of additional funding through fees. It was noted that the department already levies fees for activities but the faculty do not want these to become burdensome for students. Perhaps OSRP might be able to suggest additional funding sources.

5. Recommended Actions:

- a. The evaluation report lists 4 recommended actions (see pages 16-17, point 4) regarding resources, assessment, funding, and strategic planning.
 - Regarding point 2: ensure that reporting of assessment efforts tells the story of teaching improvement and student achievement by better linking data to changes
 - Regarding point 4: are there vision/planning statements from other departments that can serve as examples as the program continues to develop its own?

6. Recommended Result: Continuation with minor concerns

- Please make use of the detailed comments in the evaluation report (below)
- Progress Report describing progress on recommended actions due Oct 1, 2018 to Dean of College of Letters and Sciences, and by Nov. 1 2018 to Chair of Audit and Review Committee
- Next full self-study due to Audit and Review Committee Oct. 1, 2020

Submitted by: Eric Appleton

University of Wisconsin-Whitewater
Committee Form: Review of Audit & Review Self-Studies
Undergraduate Programs, 2014-2015
Majors/Minors and Standalone Minors

Date of Evaluation February 25, 2016 Short Self Study (SS*)
 Program Biological Sciences Major X Minor X

Evaluations submitted by: Eric Appleton, Amy Verbos, Dennis Kopf, Paul House, Joan Cook
Review meeting attended by: Eric Appleton, Amy Verbos, Paul House, Joan Cook

I. Program Purpose & Overview: A. Centrality

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

Sufficient Evidence	3
Some/Partial Evidence	2
No/Limited Evidence	0
Not Applicable (explain why in comments below)	0

2. The program supports general education, proficiency, and/or other programs at UW-W.

Sufficient Evidence	5
Some/Partial Evidence	0
No/Limited Evidence	0
Not Applicable (explain why in comments below)	0

3. The program has achieved or is appropriately working toward achievement of at least two goals of Inclusive Excellence.

Sufficient Evidence	3
Some/Partial Evidence	2
No/Limited Evidence	0
Not Applicable (explain why in comments below)	0

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

Sufficient Evidence	5
Some/Partial Evidence	0
No/Limited Evidence	0
Not Applicable (explain why in comments below)	0

Comments

Good analysis to answer the credits to degree question. Well-done.

1. Please provide more direct connections--what elements of the core values, mission, and strategic plan are you referring to?
3. Congratulations on the awards!
3. It is not clear how some of the evidence related to pedagogy work (Pelzel's teaching fellowship, Ecuador travel study, section of Biology 120X) serve Inclusive Excellence.

3. Science Boot Camp has been an excellent program. My understanding is that this particularly focuses on underrepresented minority students--is that correct?
3. I'm interested to hear more about the special section of Bio 120. Was it successful, and are there plans to offer it regularly?
3. Lots of IE activities have taken place.
3. How does the department define 'students of opportunity?' On page 3, Biology Boot camp is discussed, but lumps poor performance in the math prereqs with sustainable agriculture and non-traditional transfer students. Would like more clarity on just what the department feels is a student of opportunity and where this dovetails with inclusive excellence. . .
4. Appears that more support in funding/procuring external funding would be helpful to the department, since teaching percentage is expected to be about 70% of faculty activity. (page 5) The turnover of staff in the Office of Research and Sponsored Programs has been an obstacle. In general, though, it appears that the department has worked to address issues from the earlier review.
4. Thorough response to previous A&R recommendations.
4. (Pg. 5 of pdf) I'm not sure what "alternation of teaching techniques search for improvement" means. Please clarify.
4. The department is strong in obtaining grants/awards.
4. Very good work on the recommendations from the last audit.

I. Program Purpose & Overview: B. Program Mission, Goals, & Accomplishments

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

Sufficient Evidence	5
Some/Partial Evidence	0
No/Limited Evidence	0
Not Applicable (explain why in comments below)	0

2. Goals and objectives were identified and undertaken to improve or advance the program.

Sufficient Evidence	3
Some/Partial Evidence	2
No/Limited Evidence	0
Not Applicable (explain why in comments below)	0

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

Sufficient Evidence	2
Some/Partial Evidence	3
No/Limited Evidence	0
Not Applicable (explain why in comments below)	0

4. The program is considering potential revisions to mission, goals, or objectives; the program has a "vision" for where it wants to be in the future and how to get there.

Sufficient Evidence	3
Some/Partial Evidence	2
No/Limited Evidence	0
Not Applicable (explain why in comments below)	0

5. The program earned recognition or awards.

Sufficient Evidence	4
Some/Partial Evidence	0
No/Limited Evidence	1
Not Applicable (explain why in comments below)	0

6. The program has achieved or maintained program-level accreditation or has considered seeking it, where appropriate.

Sufficient Evidence	2
Some/Partial Evidence	0
No/Limited Evidence	0
Not Applicable (explain why in comments below)	3

Comments

1. Like the breadth of the mission.
1. Wording quibble with the mission statement -- "The mission is accomplished by attaining the following goals." Makes it sound as though there will be a point in the future when the mission is reached, and then. . . .? Pg 21.
2. The goals seem to become more specific after starting to get input from the assessment committee; many of the goals seem rather broad and general, mostly involving 'support' or 'work with.' What form does/will this support take? pg. 23-24 It would be nice to hear a bit about how these goals were determined -- especially since it was noted that until recently the chair was largely responsible for outlining departmental goals. Recognizing that assessment is just getting rolling in the department, how is assessment supporting the goal setting/implementation process? How is success at reaching the goals determined?
2. Yearly goals were set, but I'd encourage the department to consider how the goals are stated (i.e., many are very broad and are carried over year after year--e.g., support faculty..., support students...) and reduce the number of goals in a given year. Also, how does the department gauge whether a goal has been achieved? Some seem to be measurable but that's less clear for many. While I understand reluctance to put a specific numerical target on many of these goals, you need to be able to monitor degree of progress toward achieving them.
3. It is great that an assessment plan is being implemented. However, the process is not well articulated. Do the assessment data relate to the goals/objectives? How have/will the data be used to make changes?
- 3 The data seems mostly from tests, surveys, and the exit interview (as well as teaching evals).
3. Information on how progress with the yearly program goals are assessed would be helpful. Each year has a large number of goals and evaluating progress must be difficult.
3. The response describes a process for reviewing data on student learning. Is this also the process for setting and monitoring overall program goals?
4. Lots of specific information is included here, but I don't get an overall picture of where the department wants to be in 5-10 years.
4. This gives a clear and direct description of the program is at and where it is headed.
4. How is Biology working with Chem, Physics, and athletics to ameliorate scheduling conflicts and other curricular bottlenecks? It seems as though Bio is at the mercy of these other departments. Sounds like more university support for field courses is needed.
4. This response is an initial first step, but does not read as a vision. Where is the program going?
5. Appreciated the list of student achievements. The note that the department measures its success through student achievement is important, especially since resources and funding seem to hamper opportunities for faculty research efforts. List of Faculty awards on page 20-21
5. Congratulations on the many awards.
5. No program-level awards, but many for individuals within the department.

II. Assessment: A. Curriculum**1. The program has a clearly articulated, efficient, and purposeful curriculum, including options or emphases within the program (if applicable).**

Sufficient Evidence	5
Some/Partial Evidence	0
No/Limited Evidence	0
Not Applicable (explain why in comments below)	0

2. If program offers dual-listed courses, the expectations of graduate students differ from undergraduate students; otherwise NA

Sufficient Evidence	0
Some/Partial Evidence	0
No/Limited Evidence	1
Not Applicable (explain why in comments below)	4

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

Sufficient Evidence	0
Some/Partial Evidence	5
No/Limited Evidence	0
Not Applicable (explain why in comments below)	0

4. The program provides opportunities for students to learn in ways that extend beyond the classroom, and discussed the extent to which students are involved in these activities and opportunities.

Sufficient Evidence	5
Some/Partial Evidence	0
No/Limited Evidence	0
Not Applicable (explain why in comments below)	0

5. Online courses are evaluated in ways that ensure effective delivery, continuous improvement, and student learning (if applicable)

Sufficient Evidence	0
Some/Partial Evidence	0
No/Limited Evidence	4
Not Applicable (explain why in comments below)	0

Comments

- Nice breadth of options. Bioinformatics is a great addition, but it is covered in a separate audit report. This report is to be just biology majors and minors, not the entire department offerings. This may affect multiple parts of the report.
- Lots of curricular options for students, which is good, but this must make advising very challenging.
- Please clarify grad courses and their future (pg 45).
- It's not entirely clear how assessment data influenced the changes.
- Changes were made, but it was somewhat unclear what drove the changes; (pg. 46) "deemed too restrictive to cover the current needs of the students." By who? "New course development based on student comments from senior exit interviews, course reviews, direct requests to

faculty (from who?) and those driven by the arrival of new faculty expertise." The three courses that were removed were done so 'due to lack of faculty interested or qualified to teach such courses, or a decision to pursue a different direction in course offerings based on our current faculty expertise." Is there a 5/10 year plan that guides hiring decisions that impact course choices?

3. What was the basis for decisions to require Math 141 as a pre-req for Bio 141? To increase writing requirements? Were these decisions based (in part) on direct data on student learning? Student survey information is mentioned, which is good, but were direct student performance data considered (even faculty summaries or judgments based on class performance)?
4. Excellent opportunities for students!
4. Appreciated the Bio Research Requirements agreement (pg 51-53)
4. The number of undergraduate research students is very impressive. The research contract is a wonderful idea; setting out expectations and giving students a clear idea how things will progress is important. This is something I'll take to my department.
4. I don't understand why SLOs and assessment items were put here. Am I missing something?
5. Please provide information on how you are ensuring the items requested for these courses. Quality Matters? Specific online course assessments? How do SLOs compare to face-to-face?
5. Noted that online courses exist, but no discussion of their evaluation/assessment.

II. Assessment: B. Assessment of Student Learning

1. The program has a clearly articulated learning outcomes for students, courses are "mapped" to these learning outcomes, and some outcomes received specific attention during the review period.

Sufficient Evidence	2
Some/Partial Evidence	3
No/Limited Evidence	0
Not Applicable (explain why in comments below)	0

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

Sufficient Evidence	3
Some/Partial Evidence	1
No/Limited Evidence	1
Not Applicable (explain why in comments below)	0

3. The program has an appropriate assessment plan for measuring students' progress in attaining the outcomes.

Sufficient Evidence	1
Some/Partial Evidence	4
No/Limited Evidence	0
Not Applicable (explain why in comments below)	0

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

Sufficient Evidence	2
Some/Partial Evidence	3
No/Limited Evidence	0
Not Applicable (explain why in comments below)	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	1
Some/Partial Evidence	4
No/Limited Evidence	0
Not Applicable (explain why in comments below)	0

6. Results of assessment efforts have been shared with appropriate internal and external constituencies.

Sufficient Evidence	3
Some/Partial Evidence	2
No/Limited Evidence	0
Not Applicable (explain why in comments below)	0

Comments

1. I do not understand the numbering system (L1, L2), or why it is presented in a list. Also I have been advised that "understand" cannot be determined in assessment so it is not a good action word for SLOs. Consider revision. Are there any SLOs for each curricular emphasis?
1. It's not clear if some of the learning outcomes received specific attention.
1. I applaud the work the department has done to develop student learning outcomes. I also encourage them to consider whether there are too many departmental SLOs. Has the department developed a way to assess multiple SLOs with the same assessments? Are rubrics used to assess each SLO? The idea is to be able to say, as unambiguously as possible, the extent to which students are achieving EACH of the SLOs.
1. The SLOs are measurable. One exception might be "possess an awareness..."
1. There are several lists of SLOs in the self-study, but they all appear to be identical. Is that correct, or am I missing something?
1. I'm confused by the letter/number system. What exactly does L1, L2, etc. correspond to?
2. A matrix would be easier to understand. Also note that the LEAP Essential Outcome "Inquiry and Analysis" is missing. The inquiry part appears to have been combined with critical and creative thinking. Also, L10 and L11 are misstated. L10 is including the heading above L11 and L11 is supposed to be: Synthesis and advanced accomplishment across general and specialized studies: Demonstrated through the application of knowledge, skills, and responsibilities to new settings and complex problems.
2. I see an alignment of courses with LEAP ELOs (Table 12), but I don't see an alignment of program SLOs with LEAP ELOs.
3. What's the overall assessment plan? That is, which SLOs will be assessed when, and using what assessment method/tool/assignment? Will this be part of a 5/10 year plan?
3. The program has accomplished a lot on assessment of student learning--thanks for your work on this.
3. GREAT that every course now has stated learning goals.
3. Increasing motivation for exit exam will not address any potential failure to teach/learn the assessed item in the curriculum. Sometimes that is where you need to go to correct. Could the University Alumni office and/or the Career and Leadership office assist in tracking graduates? I cannot tell what type of data are being collected, how they are analyzed, shared, etc.
3. The department has begun assessment efforts and put goals and objectives into place. Writing in Biology has been evaluated (though funding for this effort was discontinued). What assessment tools are in place/will be used to evaluate other goals and objectives? Is there a timetable for evaluating various goals and objectives? (pg 66-67) Current objectives seem rather test oriented.

4. GRE, MCAT, senior exit exam, exit interview, satisfaction survey. All parts of the puzzle but again, seems all rather test/survey oriented.
4. Please summarize some of the data. You've provided the instrument but not the data.
4. Good use of external standardized exams (GRE and MCAT). I encourage the program to certainly continue using these data, but keep in mind that the students taking these are probably not representative of the whole student body in the major.
4. Good inclusion of Senior Exit Exam.
4. I encourage the program to consider using embedded assessments, to ensure that they are actually assessing all their SLOs over time. As it currently stands, I'd guess that many of the stated SLOs aren't being assessed.
5. "Faculty observance in coursework and research"--explain this more please (pg. 82). This could be a good basis for developing some embedded assessments.
5. Perhaps the most important piece in assessment is not evidenced--that is, the use of the assessment for improvement, it is not just the assessment that needs to be revised, it must be used to find places where your emphasis on student learning outcomes could be strengthened in the courses that focus on that element, for example. You probably do not mean this, but in reading it, it implied that you are doing assessment for the Audit Committee rather than to measure and improve the program.
6. The department has made good progress in scheduling time for faculty to talk about assessment information in department meetings.

III. Student Recruitment, Enrollment, Retention, and Graduation: A. Trend Data

1-2. Five-year enrollment and graduation trends reflect program vitality and sustainability.

Sufficient Evidence	5
Some/Partial Evidence	0
No/Limited Evidence	0
Not Applicable (explain why in comments below)	0

3. [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
Not Applicable (explain why in comments below)	0

4-5. [MAJORS ONLY] Program has strategies to recruit and retain diverse students. Composition of students approximates or exceeds the diversity of students at the University.

Sufficient Evidence	4
Some/Partial Evidence	1
No/Limited Evidence	0
Not Applicable (explain why in comments below)	0

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

Sufficient Evidence	1
Some/Partial Evidence	4
No/Limited Evidence	0
Not Applicable (explain why in comments below)	0

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

Sufficient Evidence	3
Some/Partial Evidence	2
No/Limited Evidence	0
Not Applicable (explain why in comments below)	0

Comments

- Overall, there has been substantial growth in the major over this review period (up by over 100 majors).
- 1-2. It seems there is a shift from Cell/Physiology to Pre-Biomedical. I believe these emphases are similar but will it cause a shift in courses offered?
- Are students coming to the program after freshman year and this increases the number of credits they need?
- Average number of credits to degree still seems a bit high to me, translating to 1 to 2 additional semesters. I encourage the department to think about how to reduce this, even a little
- 4-5. "Biology does not actively recruit prospective students." (pg 80) It appears that students seldom start their college careers as bio students. Does the department have/need resources to interest high school students? Is this desirable? How does general University recruitment reach out to prospective students, not just in bio, but in all the sciences?
- Is there an estimate of the effect on graduation from the problem of students finding open classes to enroll? What percentage of students do you think are taking an extra semester because of this?
- Identified a critical need for lab space.
- 6 & 7. A backlog is noted and the department has been working to address it. "We continue to have difficulties offering courses that need small class sizes, such as Writing in Biology," etc. There seems to be a major issue with scheduling of labs among student athletes -- how are the athletic programs working with departments like Bio to solve this? Why should Bio be on the hook for accommodating the student athletes and not the other way around? "A real concern is the simple lack of sufficient lab room availability." It sounds as though at the current enrollment numbers, additional faculty and lab space are important issues that need to be addressed. "Biology is over capacity given the current number of faculty." pg 82
- Be specific about what faculty have been/are about to be lost, what courses each teaches, what you are looking for in terms of numbers of faculty, expertise, etc. With such a key department, it is important to make this case better.
- Does appear somewhat oversubscribed, but not at a critical point as I see it. Plans to reduce course offerings may or may not materialize based on funding levels.

III. 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	5
Some/Partial Evidence	0
No/Limited Evidence	0
Not Applicable (explain why in comments below)	0

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

Sufficient Evidence	4
Some/Partial Evidence	1

No/Limited Evidence	0
Not Applicable (explain why in comments below)	0

3. The program systematically tracks graduates of the program.

Sufficient Evidence	3
Some/Partial Evidence	2
No/Limited Evidence	0
Not Applicable (explain why in comments below)	0

Comments

2. Please discuss the Appendix J information here for majors. Are you placing students outside of Wisconsin? What are national trends for majors? Remove Bioinformatics, it has its own Audit.
3. It was noted earlier in assessment reflection that the department is beginning to track graduates. How is the Alumni Association helping in this effort?
3. The report mentions contacting students through Facebook but how successful is that method? Are there any plans to contact students further out from graduation?

III. Student Recruitment, Enrollment, Retention, and Graduation: C. Comparative Advantage(s)

1. The program has unique features that distinguish it from competing programs--giving it a competitive edge

Sufficient Evidence	3
Some/Partial Evidence	1
No/Limited Evidence	1
Not Applicable (explain why in comments below)	0

Comments

1. Please be more comparative here. The positive features may or may not be unique. What do other programs in the UW System have and how do they compare?
1. Since the department is not involved in recruitment, and it's unclear how/whether the university recruits students interested in the sciences, the unique qualities or competitiveness of the program from a marketing standpoint is unclear.
1. This is a very good list of advantages for attracting students.
1. The emphases are unique and attractive to students. The relevance of the degree is readily apparent.

IV. Resource Availability & Development: A. Faculty Characteristics

1. Information is provided about the composition of the department faculty & instructional academic staff (e.g., gender, ethnicity, expertise, academic rank, etc.)

Sufficient Evidence	3
Some/Partial Evidence	2
No/Limited Evidence	0
Not Applicable (explain why in comments below)	0

2-3. The program has identified staffing changes and anticipated areas of potential future need.

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

Not Applicable (explain why in comments below)	0
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Comments

Program indicates that staffing levels could become critical if positions are lost.
 2-3. Please be more specific about expertise needed in order to support hiring.
 2-3. Staffing/Facilities needs are noted on page 82. "Given the potential loss of additional faculty members in the near future, we will have to reduce specific offerings to maintain our coverage in our courses. This will include reductions in our non-major's biology courses. We estimate reductions in our offerings if we are not allowed to replace existing position losses within the next year, and serious reductions if not able to replace lost positions in two years."

IV. Resource Availability & Development: B. Teaching & Learning Enhancement

1. Faculty & instructional academic staff are engaged in activities to enhance teaching and advising.

Sufficient Evidence	1
Some/Partial Evidence	4
No/Limited Evidence	0
Not Applicable (explain why in comments below)	0

Comments

Advising resources are stretched thin.
 1. Many of the items listed are activities undertaken, but are not aimed at enhancing teaching and learning so are not responsive to the question. Could be more concise. Also, note that the First Year Program for new faculty and staff provide many ways to enhance teaching and should be listed.
 1. It appears from the awards lists, assessment activities, and discussion of advisement as required by the curriculum that the faculty are engaged in these activities.
 2. Does not respond to the enhancement of teaching and advising.

IV. Resource Availability & Development: C. Research & other Scholarly/Creative Activities

1. Faculty (and staff, if relevant) are active in research and/or scholarly/creative activities.

Sufficient Evidence	5
Some/Partial Evidence	0
No/Limited Evidence	0
Not Applicable (explain why in comments below)	0

Comments

outstanding work
 1. Remove information that is not research or scholarly, such as curriculum. Do professors who have not published teach additional classes?
 1. pg 5. "Faculty and staff have brought in a large amount of grant support related to research or curricular related efforts." "Many faculty rely on doing high levels of research during the summer months. This is often difficult without funding, and greatly reduces our productivity." Four faculty have obtained sabbaticals. It seems from other evidence in the report that with the teaching efforts of the department stretched thin, less time and energy can be devoted to research/scholarly activities. Awards and grants listed on page 21-22.

IV. Resource Availability & Development: D. External Funding**1. Faculty and staff (if relevant) pursue funding through grants, contract, and/or gifts.**

Sufficient Evidence	3
Some/Partial Evidence	2
No/Limited Evidence	0
Not Applicable (explain why in comments below)	0

Comments

Well-done!

- Please add amounts to all funded items (e.g. Kapfer nos. 2-4, there are a few others too). Really good to see so much work toward external funding which is critical to biology research.
- Pg 5 "A tremendous asset for our efforts is the support from the Office of Research and Sponsored Programs. Fluctuations in the organization (staff turnover, etc) of this group has had a negative impact on our efforts to obtain funding in the recent years."

IV. Resource Availability & Development: E. Professional & Public Service**1. Faculty (and staff, if relevant) are active in professional and public service, beyond the department.**

Sufficient Evidence	5
Some/Partial Evidence	0
No/Limited Evidence	0
Not Applicable (explain why in comments below)	0

Comments

- Commendable.
- A wide variety of professional and public service by members of the department.

IV. Resource Availability & Development: F. Resources for Students in the Program**1. The program has adequate personnel, student help, and service and supplies to serve its undergraduate students.**

Sufficient Evidence	3
Some/Partial Evidence	1
No/Limited Evidence	1
Not Applicable (explain why in comments below)	0

Comments

- Is a 26:1 ratio sustainable in this funding environment?
- See previous notes about bottlenecks, lab spaces, and staffing. It sounds like this department will be in a serious staffing crisis in the next few years if issues are not addressed.

IV. Resource Availability & Development: G. Facilities, Equipment, & Library Holdings**1. The program has adequate facilities, equipment, and technological resources to effectively serve its students.**

Sufficient Evidence	1
Some/Partial Evidence	3
No/Limited Evidence	1
Not Applicable (explain why in comments below)	0

Comments

Good but could always be better

Space issues in Upham

How many square feet of lab space needed, how many offices, classrooms, etc.? What do you need as far as vans? Does the use of UW-Madison vans solve this? Can requests be more specific, and therefore contribute to long term planning?

Cost associated with instrument maintenance is often underestimated or forgotten. This description is a reminder.

V. Conclusions and Recommendations from the Department or Program

1. Program strengths are discussed.

Sufficient Evidence	5
Some/Partial Evidence	0
No/Limited Evidence	0
Not Applicable (explain why in comments below)	0

2. Areas of improvement and continued progress are discussed.

Sufficient Evidence	4
Some/Partial Evidence	1
No/Limited Evidence	0
Not Applicable (explain why in comments below)	0

3. Recommendations and resources are discussed.

Sufficient Evidence	3
Some/Partial Evidence	1
No/Limited Evidence	0
Not Applicable (explain why in comments below)	0

4. Other comments by the program (not rated).

Yes	1
No	2

Comments

1. The list of strengths is clear and persuasive.

3. Substantial requests. What would the change in accounting for labs mean for the FTEs needed in the department? Other majors also have significant advising requirements. What are the nos. there? Could academic staff be trained to advise? Recognizing the need for biology majors to do this research, perhaps the department should seek external funds for this?

VI. Reviewer Conclusions

1. Strengths of the Program

- Biology majors and minors contribute substantial benefit to UWW and further its mission.
- Biology faculty contribute to general science requirements for all students.
- Biology provides a number of interesting emphases for students, a unique marine biology emphasis, and have updated the curriculum.
- Biology contributes substantially to undergraduate research within UWW.
- Biology faculty, for the most part, are active in conducting and publishing research and providing service in addition to teaching responsibilities.
- Program is making progress on issues raised in the last report.
- Enrollment is strong.
- Course offerings are evolving.
- This program provides a comprehensive and varied set of classes to a large number of students.
- Course development is taking place and faculty and staff work on improving teaching.
- Excellent active learning opportunities are available through working with a large number of students on research projects, in the requirement of an experiential learning course and in field work courses.
- Programs like summer boot camp and access to field experience for disabled students are important.
- Good record of grants.

2. Areas for Work or Improvement

- Need to work with the Dean and University to deal with overcapacity issues. Note: It is not likely that space in Hyland Hall could be made available, as CoBE has space problems itself.
- Following through with assessment to make sure that it is used for continuous improvement.
- Staffing/Faculty needs.
- Lab Space needs.
- Appears department is caught between Chem, Physics, and athletic programming in scheduling; is there anything that can be done about this?
- Continue work on assessment efforts -- next step would seem to be to find non-test/survey assessment tools.
- Assessment of department learning goals is not clear and how it might change instruction.
- Assessment needs to be fully implemented and become routine, sustainable.
- Assessment is not done for Audit, but for continuous program improvement.
- Long-term program 'vision' needs to be clarified, and strategic planning is needed to determine where faculty want the program to be in 5 years.
- Think about embedded assessments connected to currently existing course projects to gather actionable data beyond tests and surveys.
- It's not clear how the program's yearly goals are addressed or progress evaluated. More articulation and specificity in department goals and objectives so that measurement and achievement can be better determined.

3. Other comments/questions

- Need to remove the bioinformatics minor information since it has a separate audit.
- The program is doing a good job serving a large number of students and providing a well-designed program.
- Had to sift through report content in many places; pasting in the last A&R reports actually made it more difficult to figure out what had been done since.

4. Recommended Actions

1. Identify resource needs. Be specific and detailed in the identification of needed resources such as

- lab space and additional staffing. Work with college and campus to obtain required resources.
2. Follow through with assessment and "close the loop":
 - a. Make appropriate changes to make sure that assessment measures are appropriate reflections of SLOs and that students retain the learning as reflected in direct assessment measures.
 - b. Implement and track assessment measures using a clear and sustainable process so that information from direct and indirect measures informs continuous improvements.
 - c. Identify one or two outcomes at a time and develop embedded assessment efforts in key classes.
 - d. Align program SLOs more clearly with LEAP ELOs.
 3. Identify and pursue external funding opportunities to supplement the needs of the department, as reductions in state funding have continued on a multi-decade trend. Consider additional fees for travel costs.
 4. Develop a strategic plan to identify a 5 year vision, focusing on a few annual specific, actionable and measurable program goals.

5. Recommended Result*

Insufficient Information in the self-study to make a determination; revise self-study & resubmit.	
Continuation without qualification	
Continuation with minor concerns	X*
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	
Withhold recommendation for continuation, place on probation, and require another complete Audit & Review self-study within 1-3 years, at the Committee's discretion.	
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.	
Non-continuation of the program.	

***A progress report describing progress toward the Recommended Actions is due by October 1, 2018 to the Dean of College of Letters & Sciences, and by November 1, 2018 to the Chair of the Audit & Review Committee. The program's next full self-study is due October 1, 2020.**

**University of Wisconsin-Whitewater
Committee Form: Review of Audit & Review Progress Report
Undergraduate Programs, 2018-2019
Majors/Minors and Standalone Minors**

Program Name: Biological Sciences

Date of Review Team Meeting: February 15, 2019

Date of Follow-Up Meeting: March 15, 2019 Time: 3:30 p.m. Location: Upham 322

Evaluations submitted by: Barbara Bren, Jeff Olson, James Collins, Eric Appleton, Joan Littlefield Cook

Review meeting attended by: Barbara Bren, Jeff Olson, James Collins, Eric Appleton, Joan Littlefield Cook

Recommendation #1

Identify resource needs. Be specific and detailed in the identification of needed resources such as lab space and additional staffing. Work with the college and campus to obtain required resources.

Recommendation #1 Overall Evaluation (please select your choice).

Good Progress	1
Making Progress	4
Little/No Progress	0

Comments related to recommendation #1

The program continues to make progress in this area. It reports that in Fall 2018 it will have completed the creation of a database for tracking equipment needs, as part of a five-year strategic plan that is under development. The dean added two tenure-track positions that were filled, although the review team was uncertain whether the positions are 100% in the department or shared, and the department is continuing to strategically plan for future needs.

The College is informed via department annual reports, staffing plans, etc. However, it appears that the program has made numerous attempts to communicate insufficient lab/small lecture space and damaged office space, but these longstanding issues have remained unresolved. Some construction projects (*e.g.*, development of lab space) have been ongoing for more than seven years. Perhaps the dean's office, or, given the turnover in the dean's office, FP&M, could shed light on the situation.

The frustration with resources is not hidden in this report. The issue here does not seem to be that the department has not identified resources needs; it's that the department has not had its needs met. Completion of the five year plan and bylaws this year would be a great achievement for the department before the next A&R and to have a clear vision in place for the new Dean.

Report notes that Needs Concern is 60% complete and that the Strategic Plan is 80% complete. It would still be good to see these partial documents to have a clearer idea of what the needs, requests, and bottlenecks will be.

The database idea sounds fine for keeping track of things, but I wonder whether the fluidity of a database as opposed to a regularly revised document will provide adequate clarity and structure to ongoing planning.

Noted that the Departmental Vision was approved in 2017. There is a 2018 New Vision Statement at the end of appendix 2 – but the paragraph immediately before says that “this is an older statement.” Is the 2018 statement what was approved in 2017?

In what ways will adoption of by-laws benefit or facilitate the program’s goals?

Perhaps the program could explore advising models in use elsewhere on campus, *e.g.*, Communication uses some kind of group advising. The Jump Start program that might reduce the advising load (according to Appendix 2) was not described.

Recommendation #2

Follow through with assessment and "close the loop"

- a. Make appropriate changes to ensure that assessment measures are accurate reflections of SLOs and that students retain the learning as reflected in direct assessment measures.
- b. Implement and track assessment measures using a clear and sustainable process so that information from direct and indirect measures informs continuous improvements
- c. Identify one or two outcomes at a time and develop embedded assessment efforts in key classes.
- d. Align program SLOs more clearly with LEAP ELOs.

Recommendation #2 Overall Evaluation (please select your choice).

Good Progress	0
Making Progress	5
Little/No Progress	0

Comments related to recommendation #2

Program notes that it has 14 assessment projects ongoing, with several new ones starting. While I commend the effort, I worry that this quantity of projects is not sustainable. Appendix 2 does note that efforts appear spread across the program, and notes the time frame for each project. With so many projects happening simultaneously, I wonder how they all fit into a 'big picture' for the program – or whether this range of projects was deemed necessary in order to determine just what the 'big picture' might be.

The report lists content assessments and writing assessment (and the difficulty of finding time to complete the analysis but data collection continues), and there is mention of changes to course content and course offerings as a result. I wonder if the program has been invited to an assessment institute to help hone at least some of the assessment efforts (like the writing assessment) into a more manageable state or an overall plan?

It seems there are a lot of assessment efforts ongoing; are there too many going on at once? The report notes that assessment takes time - does having so many projects delay results and closing the loop? Where else in the curriculum can embedded assessment be placed for short analytical turnaround?

The response to 2c in the report says that specific attention has been paid to 3 LOs (subject content, writing, and data analysis), and that "this assessment" is carried through the senior exit *exam*. Is this different from the senior exit *survey*? In Appendix 2 it states that the exit *interview* questions focus on students' entire time in the department. Is direct assessment of students' learning incorporated?

The report lists courses with embedded assessments and says the focus is on subject material, writing, and data analysis. Intro Bio 141/142 is noted as having embedded assessment tools for writing and data analysis, but it's stated that this assessment is 'carried out through the Senior Exit Exam,' which would not be an embedded tool. . . what course project/assignment is being used to directly assess student achievement? Still, good to know data has resulted in positive, specific changes in various courses. 'Improvement Area 2' lists some specific assessment results that all look like positive steps forward.

There's a description of the data collection site, but I could not find an outline of the process, beyond discussion in meetings. How are data being used to inform programmatic changes? It's noted that a lot of assessment methods are being deployed (Appendix B goes into additional detail) and I'm curious what changes have resulted from these.

What is the nature of this 'new, online advising assessment tool?' (it's good that advising practices are being reviewed, but the question asks about efforts toward embedding assessment tools in course activities. . .).

Advising is obviously a frustration for the department, but this seems unrelated to issue 2c of identifying and efficiently assessing outcomes.

Knowing the specifics of changes from direct assessment or the specific drop in the DFW rate would be good to read here to demonstrate what level of progress is being made.

The department thoroughly aligned SLOs and ELOs. The presentation in the report (same as in the self-study, I believe) requires a little study to understand. As was noted in the self-study, the LEAP ELOs have been revised a bit (e.g., "analysis" is gone).

Regarding the Vision Statement in Appendix 2: Items 2 and 3 are vague. What does it mean to expose students to impactful learning objectives and practices for post-graduate placement? How does the department determine which LOs are most impactful and which ones are less important?

Recommendation #3

Identify and pursue external funding opportunities to supplement the needs of the department, as reductions in state funding have continued on a multi-decade trend. Consider additional fees for travel costs.

Recommendation #3 Overall Evaluation (please select your choice).

Good Progress	0
Making Progress	4
Little/No Progress	1

Comments related to recommendation #3

I think ORSP has offered training recently for completing grant proposals, though I don't know if there was a stipend. Maybe we can request some faculty development opportunity about grant management on campus? I think some of the staffing these areas has stabilized more.

A department cannot have continuous facilities issues, an oversupply of majors to advise, pressure to schedule more GenEd labs, and still have time and focus to be confident that grant writing efforts will have a high degree of success in a competitive funding environment.

The program noted ongoing challenges when conducting research and handling external funding due to barriers that they have experienced when working with ORSP, Financial Services, and Human Resources. The anonymous quote provided in the report by a faculty member is revealing and concerning; this warrants further investigation. Availability of fleet vehicles is also a topic identified to be in need of further discussion.

Sounds like the program has the same issues with OSRP, etc, that many other programs have. Somehow carving out course release time to allow instructors to pursue grants and funding seems to be the only way to use the information dump system currently in play.

Just curious -- What happened to the funding from the Provost's office for summer research? Why was it discontinued?

Recommendation #4

Develop a strategic plan to identify a 5-year vision, focusing on a few annual specific, actionable and measurable program goals.

Recommendation #4 Overall Evaluation (please select your choice).

Good Progress	2
Making Progress	3
Little/No Progress	0

Comments related to recommendation #4

Vision portion completed, equipment portion to have been created by Fall 2018.

More of a preview of what the current vision is would be good to see at this point, even given the recent changes. But given that there are drafts of a mid-range plan for the department, progress is being made.

Need to work with the Dean and University to deal with overcapacity issues. This section deals mostly with advising (though some class/course capacity issues are discussed). Excellent that the program is examining advising needs with such detail; as part of the strategic plan, does the program break out the needs ("Where our efforts continue. . .") and have some sort of plan to address each point? It's noted that there are discussions with the Dean, but there's also the note that the program is 'unclear on how to improve in this area.'" Looking back to the 2016 Face to Face minutes, there was conversation about what it meant for a department to put forth a no-growth agenda in a University environment with a growth agenda; it does not appear that any movement has occurred since then regarding building/space/lab issues, and the program is stuck in a place where it can't grow. . .

Address lab space needs. The level of frustration on this point is extremely high (and, it appears, with good reason).

Looking back at the 2016 Face to Face notes, Dean Travis was noted as preferring faculty focus on research grants rather than facility grants (though it's hard for me to understand how to do research without adequate facilities to carry out those efforts); the Dean also asked whether faculty who aren't engaged in active research require lab space, and there were tough decisions to be made about assigning and repurposing space – which again goes back to the question of what University expectations regarding research are to be.

Need for further discussions with other science fields and athletics to provide adequate offerings given students' schedules.

Assessment needs to be maintained and sustainable, and it should help to improve the program. There has been a lot of good assessment activity that has resulted in concrete and positive changes, but the sustainability of the sheer number of projects is a concern.

Find “non-test” assessment options. Placement results, etc., are certainly important pieces of data, but what course activities (assignments, projects) are identified as possible assessment tools?

Clarify learning goals and connections to instructional goals. Tables and maps in Appendix 1 were clear and useful. One question, though – the map offers notation of ‘goals addressed’ as opposed to SLOs introduced, developed, demonstrated.

The question of connection of assessment efforts to ‘functioning of the department’ is a valid one; though it seems that assessment tools are meant to identify questions and needs, but that there should be other College/Department/University tools and processes to facilitate the responses to questions and needs. Can you clarify how assessment of student learning should or could address functioning of the department?

Recommendations for next review. Additional progress reports required?

Yes, Please List Due Dates (e.g. in 1 year, 2 years)?	1
No	4

The program's next self-study should specifically address the following:

- Completed five year plans.
- Results from assessment projects and how they will inform curriculum.
- Facilities/Space issues. Updates on getting labs and offices back in working order.
- Whether cap funds have been requested, grants applied for, etc. should be explicitly listed.
- The next report should address the same recommended actions as above since progress in these areas is ongoing and should be further strengthened as more data becomes available.
- Completion of Strategic Plan, including a timetable and implementation ideas.
- Advising staff concerns.

Additional comments:

It may be useful for the A&R committee to recommend an investigation into barriers noted by the program since these can affect progress toward recommended actions.

Next full self-study is due to college dean Oct 1 2020, and to A&R Committee Nov 1 2020.

Audit & Review
Discussion of the Progress Report Submitted 10/5/2018 by
Biological Sciences

March 15, 2019
3:30-4:30pm
Upham Hall 322

Attendance: Kerry Katovich (Program Coordinator), Frank Goza (Interim Dean), Barbara Bren (Review Team Chair), Eric Appleton, James Collins, Jeff Olson, and Joan Littlefield Cook.

We discussed the review team's comments related to the progress report submitted October 5, 2018 by the Biological Sciences program. The program is continuing to make progress, particular in the area of assessment.

With respect to the first recommendation (resource needs), Katovich reported that significant funding has been made available very recently for maintaining and replacing equipment. The Dean had requested a five-year plan in the fall, and the department created a database for tracking equipment needs and prioritized them. Priorities shift as items break down, and there is concern that some equipment may fail at about the same time, but overall the department feels its equipment needs are being met. Interior building issues remain a concern. Now that the building roof has been repaired, interior issues that have been waiting for attention can be addressed. Everyone has office space now, and with the very recent loss of Dr. Solheim there is a surplus room. However, the reduction in teaching labs due to cannibalizing them over time to create office spaces has not been remedied; room 250 has walls with office spaces ready to go but the lab portions are not configured, and this has been a seven-year project so far. Other areas need attention, such as the growth chambers. One barrier to action on interior issues is the funding limit for small projects FP&M can do each year. The delays have affected personnel, including some who have given up on research, which limits student opportunities.

The group discussed issues with the vans for course field trips, which are important high impact experiences for the students. The vans are reserved from Madison's fleet for significant periods of time. They are used for daily field trips for 4-5 classes per week, with three vans needed per class (8-9 people capacity per van). Using the vans from Madison actually is very affordable, but staff need to travel to Madison to retrieve the vans, and the vans sometimes are ticketed while parked in Whitewater's campus lots. It is unfortunate that the College can't purchase vehicles. If they were more available, other programs might be able to share them. The parking issue should be discussed with the Provost. Using Madison's vans is working, but there is always some concern because we are not entirely in control of this resource. Vans from Enterprise are too expensive, and often are inadequate.

We discussed how the size of the program makes it difficult to sustain personal advising, considered important and expected by students in the program. The report expressed a desire to make some changes to staffing to accommodate this, *e.g.*, converting the department ADA into an advising assistant. That position became vacant in Fall 2018, and the position description was revised to include some advising assistance, which the previous ADA did very well. The new hire has just started. The department has tried a variety of things over time, but Katovich believes the current 6-step model is a good one. Nevertheless, the group discussed some possibilities for the program's consideration, such as a GPA requirement for some tracks like pre-med, some form of group advising, and an advising specialist in STEM. Dean Goza also pointed out that the Dean's office has an advising specialist that might be a good resource. Katovich underscored the desire stated in the Progress Report to compensate the academic staff who currently help with advising voluntarily. Dean Goza asked for an email about that issue. Other than that, the program has adequate instructional staffing, especially with the addition of Rock County and the two recent new hires that are 100% assigned to this department.

The review team's main concern with respect to assessment (recommendation 2) was that there might be too much activity for it to be sustainable. Katovich explained that there are quite a few individual assessment projects because of faculty participation in various university initiatives that ask for assessments. There has been a lot of assessment data accumulation, but the program felt that was needed for long-term studies. Katovich indicated that the program plans to pause some of the data collection, and make changes based on what is learned from the collected data. The summer Assessment Institute was recommended as a way to work on the program's assessment plan and results to

date, which would be excellent preparation for assessment portions of the next self-study. Dean Goza encouraged this, and also mentioned summer College assessment grants.

With respect to recommendation 3 (external funding), we discussed the loss of the funding for summer research students. In the past they could hire about 30 students to work in the labs doing summer research using money from the Provost's Office, which was an excellent opportunity for the students and very helpful for recruitment and retention. Dean Goza said that he has funding for hiring students, which was recently communicated to departments.

People in the program have expressed significant frustration with grant funding, citing historical difficulties with Human Resources & Diversity (HR&D), Financial Services, and Office of Research and Sponsored Programs (ORSP) that make it not seem worth their effort. Most of the issues have been with questions about the processes for accessing or using the funding, *e.g.*, help with paperwork for NSF grants and getting through the bureaucracy of hiring and paying students from grants (but the College has student help funding right now). ORSP is willing to help, but often doesn't have answers. Katovich said more clarity about these processes and assistance with keeping track are needed. Cook said that tracking is likely to move to ORSP, which should make the whole process from start to finish more efficient.

Finally, with respect to recommendation 4 (Five-Year Strategic Vision), Katovich feels good about plans for faculty needs and curriculum. Parts of the plan will be fluid, as needs and events intervene. Katovich would like to work on department functions, such as by-laws. The group discussed some areas of potential growth or demand, such as current or future health-related programs. Course names may be changed to better reflect specialty fields. The program wants to preserve its strong student support via field work opportunities, small class sizes, and advising.

4) **Recommended Result:**

- No further progress reports are required. **The program's next full self-study is due Oct. 1, 2020 to the Dean of Letters and Sciences and Nov. 1, 2020 to the Audit & Review Committee.**

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.

4) Adjourned at 4:36 p.m.