

Program Review: Department of Zoology
Dean's Response
June 2023

Submitted by: Dr. Andrea L. Easter-Pilcher
College of Science

I would like to thank the program evaluation team members, Dr. Kimberly Bates (Winona State University), and Dr. Mark Stevenson (Weber State University) for their critical assessment of the College of Science (COS) zoology programs at Weber State University. I would also like to acknowledge Dr. Ron Meyers (Department Chair) and the faculty members in the Department of Zoology for their excellent self-study and their thoughtful and proactive response to the review team's report.

I have thoroughly reviewed the departmental self-study, the program review team's report and the ZOO response to the review team's report. The review team highlighted the many outstanding aspects of the zoology programs and also delineated a couple of areas of concern. The dean's response provides commentary on observations made by the program evaluation team as well as the ZOO faculty response. The dean's response follows the organizational structure used by the program review team in their evaluation report.

Standard A. Mission:

The review team compliments the department stating that, "Program outcomes and the curriculum are appropriately aligned with college and university missions, accurately reflecting the varied roles played by the program in servicing the life science education needs of diverse student populations across the institution, within the college and for majors and minors." The dean concurs with the review team's assessment that this is a strength of the department and commends the department for their strategic alignment of program outcomes and curriculum with college and university-level missions. The review team also notes that, "The program mission statement defines outcomes of the program as 'values', which co-mingles program goals and faculty activities with student outcomes. This is commendable in that it portrays teaching, scholarship and service not as mutually exclusive, but rather as mutually reinforcing, making the connections between them more explicit." The dean appreciates this creative way of thinking about and broadening the scope/value of the department's program outcomes.

Standard B. Curriculum Recommendations:

The review team was impressed by the curriculum noting that, "The curriculum is both rigorous and thorough, and offers a broad range of electives, enabling students to choose courses (both within and outside the major) tailored to their interests." The dean agrees with this assessment and also notes that both she and the review team appreciate the effort made by this department to tie course competencies to the National Science Foundation (NSF) Vision and Change in Undergraduate Biology Education strategies. Like the department, I agree that providing curriculum maps targeting diverse careers in biology would assist students in determining which courses best support their career goals. The dean appreciates that the department is prepared to create "career flyers for coursework in: (1) pre-professional, (2) wildlife & conservation, (3) marine biology, (4) zoo/animal care, (5) cell & molecular biology, and (6) ecosystems biology." This is an excellent strategy. The most critical recommendation from the review team was that the "use of adjuncts and non-tenure track instructors to teach General Education classes suggests they are not deemed as important as the major courses. These classes are important and should be taught by those with expertise and enthusiasm for the subject." The dean was a little surprised by the external evaluation team's apparent assumption that adjuncts did not have the "expertise and enthusiasm" for the subject.

She agrees with the departmental response to this that “our adjuncts are former students who have gone on to earn M.S. degrees, as well as former faculty with PhDs. Our full-time tenure track faculty teach the majority of our Gen Ed classes.” Indeed, the dean commends the department for resisting the “promotion of concurrent enrollment Gen Ed classes, *in which High School classes would be taught by unvetted HS teachers*. The Department of Zoology has resisted this push in part because we value the *expertise and enthusiasm* of our own vetted adjuncts.” I should note that the COS dean’s office and leadership has been working on a more formal process of evaluating adjunct faculty. This process should roll out in the fall of 2023. On an entirely different note, the dean supports the possible use of the Partnership for Undergraduate Life Sciences Education (PULSE) for a workshop to facilitate a critical assessment of the curriculum as suggested by the review team.

The dean would like to commend the faculty in this department for their focus on utilizing experiential, hands-on learning strategies within their curriculum. We know that these pedagogical strategies facilitate student retention and success. The dean recognizes that inquiry-based, active learning practices are embedded in the culture of this department to the great benefit of their students (especially first-generation students and students from minority groups that are underrepresented in the sciences and mathematics). A key piece of the university mission is to “provide excellent educational experiences through extensive personal contact among faculty, staff and students in and out of the classroom.” The Department of Zoology excels in this regard.

Standard C. Student Learning Outcomes and Assessments:

The dean appreciates the strategies suggested by the external review team which the department plans to implement beginning in fall 2023 including: preparing a capstone course for assessment, and the potential use of BioCore to do an overall program evaluation. I support the review team’s suggestion that learning outcomes be reviewed on a more regular basis, and support the suggestion of an annual retreat with that focus or setting aside a department meeting per semester to focus on learning outcomes and assessment. As the review team noted, “Student learning outcomes for major’s courses are clearly mapped for all courses following NSF’s Vision and Change.” In addition, “extensive use of labs in required and elective courses provide a remarkably high degree of High Impact Educational Experiences (HIEE’s) through which they are able to introduce, emphasize and comprehensively assess outcomes.”

The dean and the review team were both impressed with the lab skills table (p28 in the Departmental Self-Study) which provides “a good basis for documenting evidence of effective instruction going forward, given the importance of lab-based instruction in the teaching and reinforcement of foundational learning outcomes.”

Standard D. Academic Advising:

The review team rated advising of students in this department as an area of some concern. This surprised me as I consider the advising that occurs in the Department of Zoology to be some of the most comprehensive in the college. The review team did provide positive comments, “Students on the pre-professional tracks and those who self-select for research experiences and/or eventual graduate study are very well-served and benefit greatly from faculty mentorship and inclusion in an impressive array of research and scholarship opportunities.” I agree with the evaluation team’s suggestion that perhaps those students who are less self-directed, or are interested in a non-academic career, may need more opportunities to meet with an advisor to help them determine the best way forward. The career maps (see B. above) will definitely help all of the Zoology majors.

Standard E. Faculty:

The review team notes that the Zoology faculty “are highly qualified and diverse in their disciplines...very engaged with students and offer many mentoring activities, especially in terms of research.” The team further comments that the faculty, “are productive and have produced an admirable list of manuscripts and presentations, many with students. The department has a system in place for mentoring new faculty that is excellent and should be continued for future new hires. The department is very collegial and it appears that everyone is supportive of each other.” This dean could not agree more. These faculty are passionate about their fields and dedicated to the success of their students. Morale and collegiality are strong in this department. Approachable, engaged faculty members are key components of student retention and success. Kudos to the Zoology faculty and the chair for their outstanding efforts in these areas. I would like to add that, as did previous review teams (notably the program review teams in 2019 for the Departments of Microbiology, Physics & Astronomy, as well as Botany & Plant Ecology and Earth & Environmental Sciences in 2020), this review team noted that the faculty workload is significant and that there should be more credit given to faculty for mentoring student research. Again, I could not agree more and would like to see the institution increase the credit per student researcher from $\frac{1}{4}$ credit (which does not begin to cover the time and effort expended by faculty) to $\frac{1}{2}$ credit. As noted above (Standard B.), the COS dean’s office and leadership team have been working on a more formal process of evaluating adjunct faculty. This process should roll out in the fall of 2023. Finally, and critically, the COS agrees with the review team regarding the need for increased diversity in the faculty and staff in the Department of Zoology and across our college. We are having some success in this regard and will continue to focus on this as we move the COS forward.

Standard F. Program Support:

The program review evaluation team felt that the program was well staffed and was impressed with the capabilities and level of responsibilities demonstrated by the lab manager, Susan Gurr. The review team expressed some concern about the long-term viability of Susan serving as the student club advisor, but noted that it was working well. The review team suggests that the department should hire a community outreach coordinator and/or student engagement coordinator. Given that departmental budgets have not increased in many years, while costs and expenses born by departments have increased, this seems like an untenable request until department budgets are improved. The COS does have a nearly full-time outreach and community coordinator that the department could consider utilizing. Their externally funded Education Assistant does an admirable job of outreach to local schools. Faculty mentioned that funds for ongoing equipment maintenance and/or replacement was a concern. The dean notes that a top three COS priority for the WSU comprehensive campaign is a 2 million dollar fund for equipment maintenance, repair and replacement. The most significant concern noted by the review team and the faculty of this department, is the need for resources to support “in the field” research and classroom trips. The need for resources to support external field work and ongoing research is a concern/need shared by several departments within the College of Science. Specifically, the faculty in this department “identified access to reliable, affordable, and appropriately-sized campus vehicles for field trips as one significant obstacle, as such experiences are a regular and significant feature of numerous classes.” The department noted that this would “ideally include vehicles that can carry 10 or more students at a time. In addition, the fleet would ideally be large enough to have multiple vehicles with such capacity for larger classes or for multiple trips happening simultaneously.” This need is shared by several departments within the COS and likely is an issue for other colleges/ departments across our campus. These faculty also identified the “need for a permanent field station or other external site...which could serve as a base for field work, short courses and other activities for a variety of majors across the college. Given the importance of field work for many classes, such a facility

could significantly enhance longer-term, in-depth high-impact learning experiences across the curriculum.” Again, this is a resource need that the COS has identified and has made a top comprehensive campaign priority.

Standard G. Relationships with External Communities:

The review team notes that community outreach activities are buoyed up by significant contributions from the Multicultural Advancement of Science (MAS) and Zoology student clubs, which provide multiple opportunities for students to engage with the community. The review team’s suggestion that more faculty engage in outreach activities runs up against the issue that no credit is given for these activities and that a minimal amount of credit is given for faculty to mentor undergraduate research students. The department correctly notes that “many faculty members are busy with student research mentoring and view that activity as impactful student engagement and learning experiences.” The review team has already noted that faculty do not receive enough credit for student research. This situation is even worse for outreach activities. There is no mechanism in place to provide any credit for outreach activities. Of note, support for our clubs has increased dramatically under the current Dean and future recognition or awards for faculty outreach may motivate faculty participation when release time credit is not available.”

Standard H. Results of Previous Program Reviews

The review team notes that most of the previous program review recommendations have been dealt with in a positive way. The dean commends the department for addressing the previous program review recommendations and for taking care of the majority of those recommendations.