

Zoology Department
Prepared by Margaret S. Ewing

Degree Program(s) Assessed	Assessment Methods	Number of Individuals Assessed
B.S. Biological Science, Physiology, Wildlife & Fisheries Ecology, Zoology	1) Survey of Student Engagement (juniors and seniors) selected sections of survey 2) Performance of department in (juniors and seniors) meeting general objectives of degree programs – survey	1) 119 students 2) 119 students
M.S. Wildlife & Fisheries Ecology, Zoology	3) Exit interviews with students completing graduate degrees	3) 1 student

Analysis and Findings

B.S. Programs: Data collected in the Student Engagement Survey (Assessment Method 1) provided information about the academic and intellectual experiences of students in the departmental majors, which include courses both inside and outside the Zoology Department (Table 1). Students (combined majors within Zoology) reported that they worked with other students during or outside of class occasionally to often (mean 2.46, where 2=occasionally and 3=often), suggesting that majors are pursuing cooperative learning to a moderate degree. They received prompt feedback from faculty on academic performance occasionally to often (2.32), and worked harder than they thought they could to meet an instructor’s standard or expectations, also occasionally to often (2.34), which suggests that to a moderate degree they are using feedback from faculty to perform at a higher level than they might otherwise. Students also reported that to a lesser extent (2.10) they asked questions in class or contributed to class discussions. This last finding suggests that the faculty should consider finding ways to increase student involvement and active participation during class.

Wildlife majors reported that they had made a class presentation (2.15), used the OSU Library to prepare a report (3.07), and rewrote a paper after receiving input on a draft from the instructor (2.41) more frequently than combined majors within Zoology. That they participated in a field trip with an instructor more often (2.74) and physiology majors less often (1.1) is not surprising, given the emphases of the two majors.

Students learn about the process of science and about whether they might be interested in pursuing certain kinds of scientific careers by participating in research. Physiology majors were least likely to work with a faculty member on a research project (1.15) and zoology majors, most likely (1.82). The means for this item for combined majors within Zoology has increased slightly since 2002 and we expect that it will continue to increase because ZOOL 4700 Undergraduate Research Problems is now a requirement for the wildlife & fisheries as well as the zoology degree. Other avenues for students to explore professions or careers associated with their majors are as members of pre-professional organizations, volunteers or workers in career interest areas. Students in majors in the Zoology Department report doing this occasionally to often.

Students report that exams and tests in Zoology-taught courses are a mixture of multiple choice, short answer and essay questions. They observe that memorization of material and analysis of the elements of ideas are the mental activities most emphasized in their coursework taught by Zoology faculty. Zoology students must master a very large body of technical vocabulary and its application to a wide variety of processes, needs that are consistent with the emphasis on memory and the use of necessary vocabulary in analysis of processes. This emphasis in testing was observed in the 2002 assessment report and the faculty have discussed the need to also emphasize to a greater extent critical thinking skills and application of concepts. In 2004 students reported a slightly greater emphasis on these higher level mental activities in coursework than they did in 2002.

The second survey (last section of Table 1) addressed the question: Do students perceive their experience in the major as meeting the general objectives of the degree programs listed in the Outcomes Assessment Plan of 2001 (Assessment Method 2)? Student opinion is that the department is earning a grade of B/A- (3.10-3.53 on a scale of 0-4) for all but one of the objectives. The three highest means reflect congruence of

performance and objectives for two very different categories. In the first category two objectives deal with the importance of understanding biological principles and the application of the scientific method to biology (mean scores of 3.41 and 3.53). In the second category an objective deals with values that the department believes are educationally important, namely, respect for truth, tolerance for ideas of others, and desire to improve society (mean 3.43).

Graduate Programs: Exit interviews of graduating MS and PhD students with Dr. [REDACTED] (Assessment Method 3) are used to explore reasons for choosing the Zoology graduate program, most and least useful courses, experience as graduate assistants, suggestions for changes in the graduate program and post-graduate plans. The M.S. student interviewed this year chose the program in Zoology on the basis of the reputation of two of the graduate faculty members in the student's area of interest. The relationship to the advisor was described as excellent. In the role of teaching assistant, this student particularly liked the freedom to develop variations in teaching approaches in the laboratory and valuable experience working in the museum collections. Serving as a graduate student representative to the Zoology Council also was cited as valuable experience. This student would recommend this graduate program to college seniors, citing helpfulness of a variety of faculty members in the department.

Uses of Assessment Results

Assessment data and analysis were distributed to the faculty for discussion. Analysis of findings in the 2002-2003 Outcomes Assessment Report indicated that further inquiry into more details of students' academic and intellectual experience was desirable and that need has been met in general terms in this year's assessment effort. Faculty consideration of the 2003 student grades and faculty perception of performance data brought us to this year's increased emphasis on aspects of academic and intellectual experiences that dealt with instructor interaction, interaction with other students, and variations among majors within the Zoology department.

The interest of the faculty in improving effective instruction at the upper division level led us to bring a speaker to campus who has demonstrated expertise in facilitating student engagement in upper-division life science courses. Dr. [REDACTED], from the Biological Sciences Department at Capital University presented a departmental seminar titled "Developing the Questioning Mind: Helping Biology Majors Process Information," which was attended by faculty from a number of other science departments in addition to faculty and graduate students from Zoology. He was then available to discuss specific topics of interest with individual faculty members as well.

Individual faculty members are working to include problem sets, critical thinking exercises and in-class problem-based group activities as we work our way toward increasing students' experience in extending and applying concepts in the courses we teach.