

Student Learning Outcomes Assessment Summary

Fisheries, M.S.

College of Fisheries and Ocean Sciences

AY 15-16 and 16-17

Submitted by: Milo Adkison

Contact Information: mdadkison@alaska.edu

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1. Assessment information collected

a. Results of student defense of thesis proposal (pass/fail). Goal = 80% success w/in two years of enrollment. MET GOAL.

Implementation: *Advisory committees grade proposal. Staff tracks success rates.*

No failures of the proposal defense have been recorded during the last two academic years. That is 100% of students took and passed the proposal defense, which serves as a Comprehensive Exam for Fisheries MS students.

b. Goal = 80% of students will be judged by faculty and the program head to have performed at the level of a competent fisheries professional (score ≤ 2). MET GOAL.

Implementation: *Advisory committee rates student and Grad Program Chair rates thesis after thesis defense. Thesis defense evaluations use a score of 1-4 on 8 criteria and the theses are also evaluated on the same scale by the Fisheries Department Chair using 6 criteria. Scores are:*

1 = strong compared to a typical professional

2 = competent compared to a typical professional

3 = needs improvement to meet professional standards

4 = seriously deficient

During the two academic years 2015-2016 and 2016-17, 23 MS students graduated. Evaluations by committees were missing in 2 cases and evaluations by the Department Chair were missing in 2 other cases.

Student committees assigned a rating of 2.0 or better on the "overall" category for 20 of 21 students evaluated. Average scores for the 8 criteria evaluated by the committees ranged from 1.4 (clarity of presentation) to 2.0 (writing ability). "Writing ability" was scored worse (higher score) than that of a typical professional for 5 of 21

students scored and for 3 of 21 in the "knowledge of literature" criterion; no other criterion had more than one student who scored > 2.

The Department Chair assigned a rating of 2.0 or better on the "overall" category for 19 of 21 students evaluated. For the 6 criteria evaluated, the Department Chair's average scores ranged from 1.4 to 1.6, and no more than 2 of 21 were scored below the performance of a typical professional on any criterion.

criterion	writing	quantitative	logic	clarity	questions	subject	literature	overall
committee	2.0	1.7	1.5	1.4	1.6	1.5	1.8	1.7
chair	1.5	1.6	1.4	NA	NA	1.5	1.5	1.6

Average scores of student committees and department chair for MS students at thesis defense and at chair review of thesis.

c. Students post-graduation employment. Goal = 80% have fisheries-related employment or in PhD program within one year. MET GOAL.

Implementation: *Surveys of graduates from the previous assessment period (2013-2014 and 2014-2015), three years after receiving their MS, were completed.*

A total of 12 students provided responses. Of these 12 students, 11 attempted to obtain employment in a fisheries-related field and 8 were successful and 2 did not obtain employment within 1 year (but one MS graduate apparently doesn't consider a PhD program employment). Three applied to a PhD program and all were successful.

Currently, all are employed (11) or in a PhD program (1). With one exception, all students were employed in a fishery-related field by a variety of employers: 2 students worked for the State of Alaska, 3 students worked for the federal government, 2 were employed in academia, 3 by non-governmental or non-profit organizations and 1 worked outside fisheries in the retail sector (Amazon). Of the 12 respondents, 8 currently reside in the State of Alaska.

d. Goal = 50% of MS students submit a manuscript to a journal within a year, 25% successfully publish a first-authored paper within three years of graduating. MET GOAL

Implementation: *Advisors and students were asked whether publications resulted from thesis.*

Student publications: Of MS students graduating in AY14 and AY15, 17 of 19 published first-authored papers based on their thesis research. Of MS students graduating in AY16, 5 of 6 had submitted (and published) a manuscript. Although for some of the AY17 graduates it hasn't been quite a year since graduation, 9 of 13 have submitted (and 6 published) manuscripts to date.

e. Goal = 80% of graduates will be satisfied or very satisfied overall with the education they received in the UAF Fisheries Program. MET GOAL.

Implementation: *Students rate program at exit and 3 years post-graduation.*

Three-year post-graduation survey of 2016-2017 graduates: Of the 7 students who responded to the survey, 2 were "very satisfied" and 5 were "satisfied" with their overall educational and professional preparation provided by the Fisheries degree program.

f. Enrollment.

In AY 2016-2017, 47 MS and 27 PhD students officially enrolled. In AY 2017-18, enrollment was 37 MS and 31 PhD students. This decrease in MS students is probably due to recent and imminent faculty retirements, and also to reduced state and federal funding opportunities. The upcoming hire of 2 (possibly 3) faculty should reverse this trend.

2. Conclusions drawn from the information summarized above

The graduate program in Fisheries continues to be highly successful at producing graduates who almost all secure professional employment soon after graduation; in fact, one of the most common factors delaying student graduation is accepting a job before the thesis or dissertation is complete. During their tenure in our program, these students conduct high-quality science, as evidenced by the high rate of student publications.

Students are expressing concern about diminished funding opportunities. Our policy is not to accept students without at least one year of support, and many times we have two years' worth of funding; however, after this initial funding expires, some students struggle to secure additional support.

Students are asking for more teaching opportunities, which is challenging given diminished support for teaching assistantships (TAs). We've communicated the importance of maintaining TA positions to CFOS leadership, and are exploring other methods of involving students in teaching short of a full semester as a TA.

Students and alumni are asking for more instruction in practical skills, like field techniques, advanced data analysis, supervising staff, budgeting, and other professional development. Although we offer training in many practical professional skills in addition to our theoretical offerings, we can and will respond to these requests.

Although our program has maintained a high level of productivity, reduced state funding of the university has resulted in a reduction in faculty and TA positions at CFOS while reduced research funding from federal sources has reduced RA support. Fisheries is more fortunate than other Departments in having strong public and government recognition of its value; two of the upcoming faculty hires will be made using external funding, while the University's award of a President's Professorship likely was partly driven by this same public support of Fisheries. The number of graduate students we are able to support is directly related to the number of faculty advisors available. This reliance on external support to maintain faculty numbers makes the program vulnerable in the long term.

3. Curricular changes resulting from conclusions drawn above

Two (possibly three) upcoming faculty hires provide the potential to develop new courses.

There are two existing Maymester courses that focus exclusively on fisheries techniques, although the one offered in Fairbanks is a 300-level course that is not available to graduate students for credit. Based on this assessment information, and also on discussions with current students, we continuously modify and improve our courses and course offerings. For example, a 2-credit seminar was added in Fall 2018 to respond to the demand for more advanced training. This course will be centered around student-led discussion of case studies. We also contemplate new courses and/or modifying existing courses to include more hands-on techniques. We are also considering offering a student-led techniques course where several students would offer 1-2 week modules in field or analysis techniques that they are expert in; in addition to increasing the range of techniques taught, this would also provide the increased teaching opportunities that students have been requesting.

Several courses already include requested professional skills such as manuscript and proposal writing, scientific presentation, and communicating with the public. We will investigate methods for incorporating training in personnel management and budgeting, which are additional skills students are requesting.

4. Identify the faculty members involved in reaching the conclusions drawn above and agreeing upon the curricular changes resulting

Department Chair Milo Adkison drafted the OA report. The report was circulated among the Fisheries faculty and academic staff for comment, and edits were provided by...

5. Has your SLOA plan been updated to include assessment of the program's Communication Plan, as required by Faculty Senate motion? (required for baccalaureate programs only)

SLOA updates in progress.