

Student Learning Outcomes Assessment Summary

Graduate Program in Marine Sciences & Limnology

MS Marine Biology

School of Fisheries and Ocean Sciences

AYs 2014/15 & 2015/16

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1. Assessment information collected

1. Comprehensive examinations
2. Audience evaluations of oral thesis defense, with rankings on a scale of 1-5 (1 being excellent, 5 being poor)
3. Review of graduate theses by Program Head (rankings: Acceptable, Good, Very good, Outstanding)
4. Presentations and publications by graduates
5. First employment of graduates
6. Exit interview questionnaires collected from graduates to assess satisfaction with program and educational outcomes (rankings: not satisfied, mostly satisfied, very satisfied)

2. Conclusions drawn from the information summarized above

Seven students took their comprehensive exams for the first time during this time period. Five of them passed on the first attempt. Two received a "conditional pass" and were required to re-write portions for the exam; both passed after submitting revisions.

Twelve students graduated during this time period, following successful defense of their theses. Written audience evaluations were submitted for 10 of these students, with average scores mostly ranging from 1.19 to 1.80. One student received an average score of 2.75 which is an anomaly among all GPMSL programs. Lowest scores were received for not placing the study in a broader scientific context, or for inadequate answers to audience questions.

Program Head reviews of theses were mostly in the range of Good to Very Good, with a couple students ranked outstanding in at least one area. Problems noted in Program Head review varied among students, but several received extensive editorial comments for both technical issues and unclear writing styles. One student had issues with incorrect interpretation of statistical results, but most received positive evaluations for their application of statistics. Clear and effective writing is a crucial skill, and one that faculty advisors in Marine Biology do work to develop in graduate students.

Students are encouraged to write proposals to help support their research, and both proposal-writing and scientific (manuscript) writing courses are offered.

Of the students who provided reports on their accomplishments, all but one gave multiple public presentations of their work, and all but one published or contributed to at least two manuscripts. Two students went on to PhD programs, others were employed by management agencies, and a couple are working as research technicians.

Students reported mostly positive experiences in their exit interviews, when submitted. All reported excellent research experiences and training. Some specific criticisms were offered about particular courses (e.g., level of material not challenging enough) but most reported satisfaction with course offerings.

3. Curricular changes resulting from conclusions drawn above

A new MA in Marine Science was created to address the needs of students who want an advanced degree for professional advancement but don't necessarily need the more involved research experience that is involved in the MS. This option may also attract students who are working full time, e.g. in management agencies, allowing them to take classes and complete a graduate degree in a timely manner while still continuing to work.

The MS comprehensive exam requirement was evaluated in some detail, in an effort to address complaints about its effectiveness, as well as low first-time success rates particularly among Marine Biology MS students. A faculty committee conducted both student and faculty surveys, and compiled statistics on pass rates in conjunction with student qualifications (GPA, GRE scores) at time of admission to determine whether admission requirements should be tightened. The comprehensive exam committee also talked directly with students and allowed the next cohorts to vote on aspects of the exam structure (e.g., multi-day vs. single-day exam). Most students surveyed did not think the exam was unreasonable or unfair, but some had specific criticisms and suggestions for improvement. Many of these criticisms seemed to stem from isolated experiences by particular students who did not do well on the exam in the first attempt. It was ultimately determined that the exam should be retained in its current form, and that effort should be placed on communicating with students about expectations and providing some direction for preparing more effectively.

Overall, enrollment, graduation rates and student satisfaction have been excellent in the MS Marine Biology program. Students enjoy ample opportunities to participate in a variety of research and outreach activities, and go on to find good jobs in their fields.

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

The program head is responsible for completing dissertation evaluation forms and reviewing exit interviews and accomplishment forms. All attendees are invited to complete defense evaluations. The long-time program head (Katrin Iken) stepped down at the end of fall 2015, and this report was prepared using archived data by the new program head (Sarah Hardy) who only reviewed spring 2016 dissertations first-hand. The GPMSL Outcomes Assessment Committee has in the past contributed to program review, but has been inactive for some time. SFOS is currently in the midst of an organizational restructuring, and the current program head will take steps to ensure the function of this committee will be revived under the new structure, such that a broader group of faculty will be involved in program review and improvement.