

UNIVERSITY OF ALASKA FAIRBANKS
Student Learning Outcomes Assessment Plan
 College of Fisheries and Ocean Sciences Ph.D. in Marine Biology

Department of Marine Biology, CFOS

Date: October 2025

Expanded Statement of Institutional Purpose	Intended Objectives/Outcomes	Assessment Criteria and Procedures	Implementation (what, when, who)
MISSION STATEMENT: The faculty at the Department of Marine Biology is dedicated to providing exceptional high-latitude research and educational experiences and support for our students. CORE VALUES: <u>A core part of Alaska:</u> Alaska's marine ecosystems are the focal point of our research and education endeavors, and we emphasize field work and relevance to stakeholders. <u>Core team values:</u> Our collaborative team is dedicated to research, service, education and balancing a strong work ethic with a good sense of humor and love of life. <u>Education at our core:</u> We are on a quest for knowledge, are committed to education, and strive to provide exceptional high-latitude experiences and support for our students.	1) Graduates will be competent scientists and adequately prepared to succeed in the job market in their chosen field.	All students must pass a written and oral Comprehensive Exam assessing interdisciplinary knowledge in the field of Marine Biology and in-depth knowledge of their field of specialization. The written comprehensive exam is administered by the students' advisory committee; the oral exam also includes an outside examiner provided by the graduate school. It is expected that 75% of our students will pass this exam after the first attempt and that 95% will pass after the second. Students are required to write a dissertation interpreting the results of original research. The quality of the research and written dissertation is equal to what would be expected from several peer-reviewed journal articles. Students will defend their dissertation research in a public forum, followed by a closed-door session. The students' advisory committee will question the student on their research and discuss final points to be addressed in the dissertation document before submission to the department chair. It is expected that 90% of our students have published at least one manuscript of their research in a peer-reviewed journal at the time of graduation and a second one submitted for publication within 2 years of graduation. Students will present at least two public presentations on their dissertation research outside of the College of Fisheries and Ocean Sciences. It is expected that 90% of students will present their research at a local, national, or	The Department of Marine Biology will collect data on comprehensive exam outcomes as part of graduate school forms. Successful completion of the required coursework (MBI 610, 615, and OCN 650) with passing grades according to program requirements, as well as electives relevant to the students' dissertation research. Successful completion of courses, such as MBI 601, 602, participation in the 3-minute thesis competition, workshops (e.g., through EPSCoR). The Department of Marine Biology student committees and the Department Chair will assess research competence and written communication skills by reviewing all dissertations submitted each year. The Department of Marine Biology will collect data on student-authored publications in the peer-reviewed literature, local, national, and international conference attendance and presentations by students. Student success in proposal/fellowship funding and external awards of excellence are especially useful indicators of science competency, as these grant opportunities are highly competitive and evaluated by individuals outside of CFOS. Advisors to Ph.D. students will encourage and track teaching and mentorship opportunities, such as guest lectures in their classes. The Department of Marine

		international conference at least twice during their tenure in CFOS. It is expected that 80% of students will have success in supporting their dissertation research with at least two awards during their tenure at CFOS. It is expected that 60% of students will take advantage of at least one opportunity to teach and mentor, e.g., teaching assistantship, guest lecture, undergraduate mentee. 60% of students will take advantage of at least 2 professional development, e.g., MBI 601, 602, 3-minute thesis competition, workshops (e.g., through EPSCoR) or outreach opportunities (e.g., science fair, Research Day, presentations to tribal councils) 80% of graduates seeking employment or continued education in marine sciences (e.g., post doc), or other fields relevant to their education, will succeed within one year of graduation.	Biology will collect data on student success in the job market following graduation.
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	2) Graduates will have excellent oral and written communication skills. They will have mastery of the core knowledge of marine science and be an expert in the subject area of their dissertation.	All students must pass a written and oral Comprehensive Exam assessing interdisciplinary knowledge in the field of Marine Biology and in-depth knowledge of their field of specialization. The written comprehensive exam is administered by the students' advisory committee; the oral exam also includes an outside examiner provided by the graduate school. It is expected that 75% of our students will pass this exam after the first attempt and that 95% will pass after the second. Students are required to write a dissertation interpreting the results of original research. The quality of the research and written dissertation is equal to what would be expected from several peer-reviewed journal articles. It is expected that 90% of our students have published at least one manuscript of their research in a peer-reviewed journal at the time	The Department of Marine Biology will collect data on comprehensive exam outcomes as part of graduate school forms. Successful completion of the required coursework (MBI 610, 615, and OCN 650) with passing grades according to program requirements, as well as electives relevant to the students' dissertation research. Successful completion of courses, such as MBI 601, 602, participation in the 3-minute thesis competition, workshops (e.g., through EPSCoR). The Department of Marine Biology student committees and the Department Chair will assess research competence and written communication skills by reviewing all Ph.D. dissertations submitted each year. The Department of Marine Biology will collect data on student-
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		of graduation and a second one submitted for publication within 2 years of graduation. Students will present at least two public presentations on their dissertation research outside of the College of Fisheries and Ocean Sciences. It is expected that 90% of students will present their research at a local, national, or international conference at least twice during their tenure in CFOS. It is expected that 70% of students will take advantage of at least one opportunity to teach and mentor, e.g., teaching assistantship, guest lecture, undergraduate mentee. We anticipate that 80% of students will have success in supporting their dissertation research with at least two awards during their tenure at CFOS. 60% of students will take advantage of at least 2 professional development, e.g., MBI 601, 602, 3-minute thesis competition, workshops (e.g., through EPSCoR) or outreach opportunities (e.g., science fair, Research Day, presentations to tribal councils).	authored publications in the peer-reviewed literature. Publications are evaluated by independent reviewers (not CFOS associated or immediate colleagues), who will assess scientific rigor, analytical competence, and effective written communication of the dissertation research. The Department of Marine Biology will gather data on student attendance and presentations at local, national, and international conferences. Presentation at conferences requires social and networking skills, expertise in the students' scientific subject area, and excellent oral communication skills. Data on student success in proposal/fellowship funding and external awards of excellence are especially useful indicators of science competency and written communication skills, as these grant opportunities are highly competitive and evaluated by individuals outside of CFOS. Advisors to Ph.D. students will encourage and track teaching and mentorship opportunities, such as guest lectures in their classes.
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	3) Graduates will be capable of accomplishing rigorous scientific research.	Students are required to write a dissertation interpreting the results of original research. The quality of the research and written dissertation is equal to what would be expected from several peer-reviewed journal articles. It is expected that 90% of our students have published at least one manuscript of their research in a peer-reviewed journal at the time of graduation and a second one submitted for publication within 2 years of graduation. Students will present at least two public presentations on their dissertation research outside of the College of Fisheries and Ocean Sciences. It is expected that 90% of students will present their research at a local, national, or international conference at least	The Department of Marine Biology will collect data on student-authored publications in the peer-reviewed literature. Publications are evaluated by independent reviewers (not CFOS associated or immediate colleagues), who will assess scientific rigor, analytical competence, and effective written communication of the dissertation research. The Department of Marine Biology will gather data on student attendance and presentations at local, national, and international conferences. Presentation at conferences requires social and networking skills, expertise in the students' scientific subject area, and excellent oral communication skills. Data on student success in proposal/fellowship funding and
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		twice during their tenure in CFOS. We anticipate that 80% of students will have success in supporting their dissertation research with at least two awards during their tenure at CFOS.	external awards of excellence are especially useful indicators of science competency and written communication skills, as these grant opportunities are highly competitive and evaluated by individuals outside of CFOS.
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	4) Graduates will be prepared to teach at academic institutions.	It is expected that 70% of students will take advantage of at least one opportunity to teach and mentor, e.g., teaching assistantship, guest lecture, undergraduate mentee. 60% of students will take advantage of at least 2 professional development, e.g., MBI 601, 602, 3-minute thesis competition, workshops (e.g., through EPSCoR) or outreach opportunities (e.g., science fair, Research Day, presentations to tribal councils).	Successful completion of the required coursework (MBI 610, 615, and OCN 650) with passing grades according to program requirements, as well as electives relevant to the students' dissertation research Successful completion of courses, such as MBI 601, 602, participation in the 3-minute thesis competition, workshops (e.g., through EPSCoR). Advisors to Ph.D. students will encourage and track teaching and mentorship opportunities, such as guest lectures in their classes.
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