



**Board of Regents Program Action Request**  
**University of Alaska**  
 Proposal to Add, Change, or Delete a Program of Study

1a. UA University (choose one) UAF	1b. School or College College of Fisheries and Ocean Sciences	1c. Department or Program Departments of Oceanography and Marine Biology
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2. Complete Program Title Master of Marine Studies (MMS)

3. Type of Program

Undergraduate Certificate   
  Associate   
  Baccalaureate   
  Post-Baccalaureate Certificate  
 Master's   
  Graduate Certificate   
  Doctorate

4. Type of Action

Add   
  Change   
  Delete

5. Implementation date (semester, year)

Fall   
  Spring   
  Summer   
 Year 2017

6. Projected Revenue and Expenditure Summary. Not Required if the requested action is deletion. (Provide information for the 5<sup>th</sup> year after program or program change approval if a baccalaureate or doctoral degree program; for the 3<sup>rd</sup> year after program approval if a master's or associate degree program; and for the 2<sup>nd</sup> year after program approval if a graduate or undergraduate certificate. If information is provided for another year, specify (3rd) and explain in the program summary attached). Note that Revenues and Expenditures are not always entirely new; some may be current (see 7d.)

Projected Annual Revenues to the University in FY 2020		Projected Annual Expenditures in FY 2020	
Unrestricted		Salaries & benefits (faculty and staff)	\$
General Fund	\$	Other (commodities, services, etc.)	\$
Student Tuition & Fees	\$146,000	TOTAL EXPENDITURES	\$no additional
Indirect Cost Recovery	\$	One-time Expenditures to Initiate Program (if >\$250,000)	
TVEP or Other (specify):	\$	(These are costs in addition to the annual costs, above.)	
Restricted		Year 1	\$
Federal Receipts	\$	Year 2	\$
TVEP or Other (specify):	\$	Year 3	\$
TOTAL REVENUES	\$146,000	Year 4	\$

Page # of attached summary where the budget is discussed, including initial phase-in: 4-5. Tuition revenue estimated based on enrollment of 6 FTE resident and 6 FTE non-resident students in the 3<sup>rd</sup> year.

7. Budget Status. Items a., b., and c. indicate the source(s) of the General Fund revenue specified in item 6. If any grants or contracts will supply revenue needed by the program, indicate amount anticipated and expiration date, if applicable.

Revenue source	Continuing	One-time
a. In current legislative budget request	\$	\$
b. Additional appropriation required	\$	\$
c. Funded through new internal UA university redistribution	\$	\$
d. Funds already committed to the program by the UA university <sup>1</sup>	\$	\$
e. Funded all or in part by external funds, expiration date	\$	\$
f. Other funding source Specify Type:	\$	\$

8. Facilities: New or substantially (>\$25,000 cost) renovated facilities will be required.     Yes     No

If yes, discuss the extent, probable cost, and anticipated funding source(s), in addition to those listed in sections 6 and 7 above.

<sup>1</sup>Sometimes the courses required by a new degree or certificate program are already being taught by a UA university, e.g., as a minor requirement. Similarly, other program needs like equipment may already be owned. 100% of the value is indicated even though the course or other resource may be shared.

9. Projected enrollments (headcount of majors). If this is a program deletion request, project the teach out enrollments.

Year 1: 4	Year 2: 8	Year 3: 12	Year 4: 16
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Page number of attached summary where demand for this program is discussed: 4

10. Number\* of new TA or faculty hires anticipated (or number of positions eliminated if a program deletion):

Graduate TA	0
Adjunct	0
Term	0
Tenure track	0

11. Number\* of TAs or faculty to be reassigned:

Graduate TA	0
Adjunct	0
Term	0
Tenure track	0

Former assignment of any reassigned faculty: N/A  
For more information see page N/A of the attached summary.

12. Other programs affected by the proposed action, including those at other MAUs (please list):

Program Affected	Anticipated Effect
Interdisciplinary Studies	One or two fewer students/year would pursue an MA in Interdisciplinary Studies

Page number of attached summary where effects on other programs are discussed: 3

13. Specialized accreditation or other external program certification needed or anticipated. List all that apply or 'none': None

14. Aligns with University or campus mission, goals, core themes, and objectives (list): The program is aligned with the UAF Strategic Plan and its Core Themes as specified below:

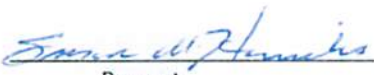
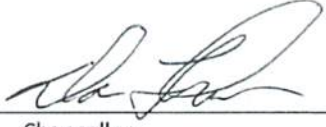
- \*Serve Alaska's diverse communities in ways that are increasingly responsive and accessible and enhance the social, economic, and environmental well-being of individuals and communities. This Strategic Plan goal is reiterated in the UAF Core Theme "Prepare: Alaska's Career, Technical, and Professional Workforce". This program will be an avenue for students to further their education in Marine Science and also for people currently in the workforce to increase their knowledge base and education level.
- \*Create or expand graduate programs in targeted areas of identified need and existing strengths. There is a need for broadly-educated scientists and this M.M.S. program will fill that need.
- \*Enhance UAF's competitive advantage by attracting and keeping the best and brightest students, staff, faculty. The M.M.S. program will allow UAF to attract a new type of graduate student, one who wants a broad knowledge base, but not experience with an independent research project. With this program, we will be able to accept students without the requisite funding needed for independent research.
- \*Develop innovative approaches to managing University resources to support its mission and position it to meet challenges of the future. This program would not be associated with any new costs because faculty salaries are already fully covered and classes are already being offered. The additional tuition revenue from this program will be a net gain.

Page in attached summary where alignment is discussed: 3

<p>15. Aligns with Shaping Alaska's Future themes:</p> <p>The MMS particularly aligns with the themes Productive Partnerships With Public Entities and Private Industries and with Accountability to the People of Alaska, Issue E, concerning revenue generation.</p> <p>Page in attached summary where alignment is discussed: 3-4</p>	<p>16. Aligns with Academic Master Plan goals:</p> <p>The MMS is well-aligned with:          Goal 1: Educate students to become informed and responsible citizens          Goal 4: Develop and enhance programs to respond to state needs.</p> <p>Page in attached summary where alignment is discussed: 4</p>
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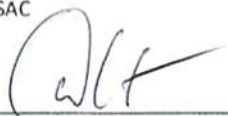
<p>17. State needs met by this program (list): Currently there is no non-thesis or professional master's program in marine studies in Alaska. This program would educate students with a broad knowledge base in marine biology and oceanography that would be useful to many entities.</p> <p>Page in the attached summary where the state needs to be met are discussed: 1-2</p>	<p>18. Program is initially planned to be: (check all that apply)</p> <p><input checked="" type="checkbox"/> Available to students attending classes at UAF (including its sites outside Fairbanks) campus(es).  <input type="checkbox"/> Available to students via e-learning.  <input type="checkbox"/> Partially available students via e-learning.</p> <p>Page # in attached summary where e-learning is discussed: N/A</p>
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Submitted by the University of Alaska Fairbanks.  
(choose one above)

 _____ Provost	11/30/17 _____ Date	 _____ Chancellor	11/30/2017 _____ Date
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Consensus Support of SAC       Not Supported by SAC

Recommend Approval by VPAAR  
 Recommend Disapproval by VPAAR

 _____ UA Vice President for Academic Affairs	12/2/17 _____ Date
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\*Net FTE (full-time equivalents). For example, if a faculty member will be reassigned from another program, but his/her original program will hire a replacement, there is one net new faculty member. Use fractions if appropriate. Graduate TAs are normally 0.5 FTE. The numbers should be consistent with the revenue/expenditure information provided.

Attachments:       Summary of Degree or Certificate Program Proposal       Other (optional)

Revised: 04/20/2015



**New Degree Program Proposal  
Master of Marine Studies  
College of Fisheries and Ocean Sciences**

**Introduction and Overview**

Alaska has more coastline than any other state, with over 54,000 km (U.S. Census Bureau 2012). Alaska's waters are some of the most productive in the world, supporting healthy ecosystems with active commercial fisheries and subsistence harvests. Alaska's bordering oceans are part of an interconnected global ocean system that is impacted by climate, effluents from coastal communities, harvesting of biological resources, and development of oil, gas, and mineral resources. Concerns for ocean health currently include acidification, warming temperatures, increased sea level, zones of depleted dissolved oxygen, impacts of storms and runoff, and the associated changes in water circulation, biological productivity, and food web dynamics. Because of the growing concerns for our oceans' health, sustainability, and wise management, trained scientists at various education levels are needed.

To partly address these needs, the UAF College of Fisheries and Ocean Sciences proposes to implement a Master of Marine Studies (M.M.S.) program. While there are a variety of ocean-related degrees offered in Alaska and across the nation, no professional master's degree in a marine science field is currently offered within UA. The M.M.S. will complement existing degree programs by providing a post-baccalaureate education option for professionals that can be pursued either full-time or part-time. The program will provide education in the broad fields of marine biology and oceanography, sustainable use of ocean resources, and related societal impacts. This degree is designed to be relevant to those pursuing careers in a broad range of sectors, including (but not limited to) teaching, government policy, and industry.

The M.M.S degree will be taught by existing faculty, who currently deliver the Master of Science (M.S.) programs in Marine Biology and Oceanography. The M.M.S. will differ from the two existing M.S. degrees in that it will require a larger number of courses, but will place less emphasis on attaining in-depth knowledge of the scientific process through independent research. Rather, students will select either a smaller research project or a comprehensive literature review instead of completing a research thesis.

As one of the premier Arctic Ocean sciences programs in the nation, the UAF College of Fisheries and Ocean Sciences will educate the professionals who will work to foster the sustainability of Alaska's marine resources in the face of changing climate and increased human impact. This proposed degree program will increase graduate student recruitment and retention at UAF. It will also support the many agencies and industries with an interest in the health and sustainability of our ocean.

**Career Opportunities and Need for the Program**

The objective of this proposed M.M.S. degree program is to provide students with the knowledge base to be competitive for positions within state, federal, and tribal organizations and industry in

Alaska and elsewhere. For example, graduates would be qualified for entry-level positions in government agencies such as the U.S. Fish and Wildlife Service, U.S. Geological Survey, National Ocean and Atmospheric Administration, Bureau of Ocean Energy Management, and others. A student with an M.M.S. would have an academic advantage over those with undergraduate degrees in applying for these highly competitive positions.

The specific educational outcomes for graduates in the M.M.S. are:

- Have a graduate level understanding of marine biology and oceanography concepts;
- Have the ability to gather and synthesize published scientific information;
- Have the ability to effectively communicate with other professionals and laypersons using written, oral, and technological skills;
- Have an appreciation for and understanding of the need for lifelong learning and developing professional skills.

We requested input from potential employers of graduates from the proposed program, and received encouraging responses:

- One of the Program Leaders at the USGS-Alaska Science Center commented that our proposed degree "... seems similar to a program at SFU [Simon Fraser University] when I was there, in the Resource and Environmental Management program. A lot of the kids that came out of that program ended up working for consulting firms or in regulatory agencies, equivalent to Fish and Wildlife Service or National Park Service in this case. So I think that there is a role for a program like that, and opportunities for students that receive that kind of degree.... I would certainly consider hiring someone like that in a technical capacity, and would give them stronger consideration than someone with only a B.S., given similar levels of experience."
- Similarly, the Director of Science and Research of one of Alaska's regional citizens advisory councils stated that "I do see the value ... especially for jobs that require an understanding of basic science (which can be obtained with a B.S. degree) but would benefit from maybe a little more focus on marine biology/oceanography. For example, I think agencies often hire folks with a B.S. in basic biology, but their job requires an understanding of the coastal or ocean environment."
- In addition, Alaska Native organizations would have interest in these graduates. The Environmental Coordinator of the Seldovia Tribal Council stated that "This sounds really cool and maybe more interesting to someone who wants to continue working in their community, maybe for their Tribe. We have started asking for a minimum of a master's in Biology for our department. Having someone who is more versed would definitely make them more usable. We have done a lot of training after we get folks hired but coming in with more of a broader understanding would make that easier."
- Also, industry sees a need for these graduates. A member of the oil industry thought that the master's program could be valuable to industry/agencies that do not have much familiarity in marine issues, but find themselves having to deal with these complex problems in their job. Many of these students might already have an advanced degree (e.g., terrestrial biology/environmental science), but have little to no familiarity with marine issues. The M.M.S. could be attractive to them, because it is a degree that allows them to work in their present job while pursuing career advancement and continued education.

## **Relation of Program to other Programs within the UA System**

The M.M.S. does not duplicate or closely approximate other programs within the UA System. Thus, the M.M.S. should have minimal impacts on enrollment of other degree programs. The only program that this could impact is the UAF M.A. in Interdisciplinary Studies, which is currently the only program that awards degrees in marine science related fields that do not require a thesis. There have never been more than two or three students in that program advised by CFOS faculty, so the effect will be slight.

## **Program Alignment with UAF and UA Goals**

Alignment with UAF Mission, Core Themes, and Strategic Plan:

The M.M.S. will help to fulfill the academic mission of UAF by providing high quality, cutting-edge education to graduate students seeking a career (or to advance their career) in Marine Sciences.

The program is aligned with the UAF Strategic Plan and its Core Themes as specified below:

- *Serve Alaska's diverse communities in ways that are increasingly responsive and accessible and enhance the social, economic, and environmental well-being of individuals and communities.* This UAF Strategic Plan goal is reiterated in the UAF Core Theme "Prepare: Alaska's Career, Technical, and Professional Workforce". The M.M.S. will be an avenue for students to further their education in Marine Science and also for people currently in the workforce to increase their knowledge base and education level.
- *Create or expand graduate programs in targeted areas of identified need and existing strengths.* There is a need for broad-thinking scientists and the M.M.S. program will help to fill that need.
- *Enhance UAF's competitive advantage by attracting and keeping the best and brightest students, staff, faculty.* The M.M.S. program will allow UAF to attract a new type of graduate student, one who wants a broad knowledge base, but not experience with an extensive research project. With this program, CFOS will be able to accept students without the grant funding needed for research.
- *Develop innovative approaches to managing University resources to support its mission and position it to meet challenges of the future.* This program would not be associated with any new costs because faculty salaries are already fully covered and classes are already being offered. The additional tuition revenue from this program will therefore be a net resource increase.

Alignment with Shaping Alaska's Future:

This program will contribute to Theme 1 of Shaping Alaska's Future (Student Achievement and Attainment) by providing a master's degree program that can readily be completed in two years. This is possible because this degree does not require an independent research project. In addition, this program will also contribute to Theme 3 (Productive Partnerships with Public Entities and

Private Industries) by producing graduates well suited to fill many employment opportunities. The program will address aspects of Theme 5, Accountability to the People of Alaska, as it pertains to increasing net revenue generation.

#### **Alignment with the UA Academic Master Plan:**

The M.M.S. is well-aligned with Shaping Alaska's Future, particularly Goal 1: Educate students to become informed and responsible citizens, and Goal 4: Develop and enhance programs to respond to state needs. The program will provide knowledge and perspectives in the broad fields of marine biology and oceanography, sustainable use of ocean resources, and related societal impacts. Program graduates will be knowledgeable about Alaska's extensive marine environments and will be prepared to make appropriate decisions, either as voting citizens or as employees of state or federal agencies or private industry.

#### **Projected Enrollment**

CFOS will publicize the program to faculty and students in the UA system and to communities in Alaska through multiple press releases, newsletters, and internal communications. We will also advertise this program with specially produced flyers that will highlight and outline this new degree to rural communities, military facilities and agencies through our faculty connections with them. We will use our newly renovated web site to highlight this degree.

We expect to have approximately 20 graduates enrolled each year in the mature program, with a graduation rate of five per year. (This is in addition to about 30 students in the existing Marine Biology and Oceanography M.S. programs). It will take approximately five years to reach the projected enrollment. Based on FY17 tuition rates, revenue from a mature program of 20 students (evenly divided between residents and nonresidents) would be \$243,200. The Program Action Request form shows projected tuition revenue after three years of \$146,000/year, assuming six resident and six nonresident students. This estimate was obtained as follows:

- CFOS faculty have spoken with supervisory employees of government agencies (e.g., U.S. Fish and Wildlife Service, U.S. Geological Survey, National Oceanic and Atmospheric Administration, Bureau of Ocean and Energy Management), an Alaska regional citizens advisory council, an Alaska Native organization, and members of the oil industry to get input on this new degree program. Formal letters of support from some of these colleagues are available on request. We also polled the undergraduates who are currently enrolled in the CFOS Marine Science Minor, and 30% expressed interest in enrolling in the program in the future.

Further information concerning projected enrollments includes:

- **Minimum enrollment:** The minimum number of enrolled students for this program will be three students. Since this new degree does not require new faculty or new courses, we feel that three students would be sufficient to keep the program active. Unique costs of the program will be limited to some targeted recruiting efforts.

- **Maximum enrollment:** The maximum enrollment for this program is 30 students. At that point costs would increase due to the need for more sections or more frequent course offerings, since some courses would reach their enrollment caps.
- **Special restrictions on enrollment:** Similar to our M.S. degree, the admission standard for the M.M.S. degree program would be a minimum undergraduate GPA of 3.0 and GRE scores of at least the 55<sup>th</sup> percentile in two of the three areas (verbal, quantitative, and written).

### **Resource Impact**

No new resources are needed for this new degree program. All courses that are required for the M.M.S. are currently being offered through CFOS, and the courses have capacity to enroll additional students. CFOS already has sufficient facilities and equipment, faculty, and access to Library resources and services to support this program.