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FORMAT 1

Submit original with signatures + 1 copy + electronic copy to Faculty Senate (Box 7500).  
See <http://www.uaf.edu/uafgov/faculty-senate/curriculum/course-degree-procedures/> for a complete description of the rules governing curriculum & course changes.

**TRIAL COURSE OR NEW COURSE PROPOSAL**  
(Attach copy of syllabus)

**SUBMITTED BY:**

Department	GPMSL	College/School	SFOS
Prepared by	Brenda Konar	Phone	X5028
Email Contact	bhkonar@alaska.edu	Faculty Contact	Brenda Konar

1. ACTION DESIRED (CHECK ONE):  
 Trial Course  New Course

2. COURSE IDENTIFICATION:  
 Dept: MSL Course #: 499 No. of Credits: 3

Justify upper/lower division status & number of credits:  
 This course is a self-designed scholarly project that is the capstone of a student's Bachelor of Science in Fisheries and Ocean Sciences with an Ocean Sciences concentration. Three credits are required for this course as the student is expected to successfully complete 120 hours of supervised scholarly activity in completing a senior thesis.

3. PROPOSED COURSE TITLE: Senior Thesis

4. To be CROSS LISTED? YES/NO: N If yes, Course #: Dept:

NOTE: Cross-listing requires approval of both departments and deans involved. Add lines at end of form for additional required signatures.

5. To be STACKED?\* YES/NO: N If yes, Course #: Dept:

How will the two course levels differ from each other? How will each be taught at the appropriate level?:

\* Use only one Format 1 form for the stacked course (not one for each level of the course!) and attach syllabi. Stacked course applications are reviewed by the (Undergraduate) Curricular Review Committee and by the Graduate Academic and Advising Committee. Creating two different syllabi (undergraduate and graduate versions) will help emphasize the different qualities of what are supposed to be two different courses. The committees will determine: 1) whether the two versions are sufficiently different (i.e. is there undergraduate and graduate level content being offered); 2) are undergraduates being overtaxed?; 3) are graduate students being undertaxed? In this context, the committees are looking out for the interests of the students taking the course. Typically, if either committee has qualms, they both do. More info online - see URL at top of this page.

6. FREQUENCY OF OFFERING: Every Fall, Spring, Summer  
 Fall, Spring, Summer (Every, or Even-numbered Years, or Odd-numbered Years) - or As Demand Warrants

7. SEMESTER & YEAR OF FIRST OFFERING (Effective AY2015-16 if approved by 3/31/2015; otherwise AY2016-17) Fall 2016

**8. COURSE FORMAT:**

NOTE: Course hours may not be compressed into fewer than three days per credit. Any course compressed into fewer than six weeks must be approved by the college or school's curriculum council. Furthermore, any core course compressed to less than six weeks must be approved by the Core Review Committee.

COURSE FORMAT: (check all that apply)  1  2  3  4  5  6 weeks to full semester

OTHER FORMAT (specify)

Mode of delivery (specify lecture, field trips, labs, etc) Mode of delivery will include discussions about the project between the student and the mentor. It may include field trips and labs.

9. CONTACT HOURS PER WEEK:  LECTURE hours/weeks  LAB hours /week  9 PRACTICUM hours /week

Note: # of credits are based on contact hours. 800 minutes of lecture=1 credit. 2400 minutes of lab in a science course=1 credit. 1600 minutes in non-science lab=1 credit. 2400-4800 minutes of practicum=1 credit. 2400-8000 minutes of internship=1 credit. This must match with the syllabus. See <http://www.uaf.edu/uafgov/faculty-senate/curriculum/course-degree-procedures-/guidelines-for-computing-/> for more information on number of credits.

OTHER HOURS (specify type)

10. COMPLETE CATALOG DESCRIPTION including dept., number, title, credits, credit distribution, cross-listings and/or stacking (50 words or less if possible):

Example of a complete description:

FISH F487 W, O Fisheries Management  
3 Credits Offered Spring  
Theory and practice of fisheries management, with an emphasis on strategies utilized for the management of freshwater and marine fisheries. Prerequisites: COMM F131X or COMM F141X; ENGL F111X; ENGL F211X or ENGL F213X; ENGL F414; FISH F425; or permission of instructor. Cross-listed with NRM F487. (3+0)

MSL F499 Senior Thesis  
3 Credits Every Fall, Spring, Summer  
Under the supervision and mentorship of a Fisheries and Ocean Sciences faculty member, students will complete a self-designed scholarly project that is the capstone of a student's exemplary academic performance. The student will complete a senior thesis based on field and/or laboratory data collected during a field course or work that was completed with the faculty mentor within the context of the existing literature relevant to the study topic. Students will be expected to work with their senior thesis mentor to submit the manuscript for peer review to a scientific journal and will be required to present their study results as an oral or poster presentation. Prerequisites: Fisheries and Ocean Sciences major with Ocean Sciences concentration and senior standing with a GPA of 3.2 or higher. Permission of a Fisheries and Ocean Sciences faculty mentor. Recommended Courses: MSL F450 or MSL F456 and STAT F401 or STAT F402

11. COURSE CLASSIFICATIONS: Undergraduate courses only. Consult with CLA Curriculum Council to apply S or H classification appropriately; otherwise leave fields blank.

H = Humanities  S = Social Sciences

Will this course be used to fulfill a requirement for the baccalaureate core? If YES, attach form. YES:  NO:

IF YES, check which core requirements it could be used to fulfill:  
O = Oral Intensive, Format 6  W = Writing Intensive, Format 7  X = Baccalaureate Core

11.A Is course content related to northern, arctic or circumpolar studies? If yes, a "snowflake" symbol will be added in the printed Catalog, and flagged in Banner.

YES  NO

12. COURSE REPEATABILITY:

Is this course repeatable for credit? YES  NO

Justification: Indicate why the course can be repeated (for example, the course follows a different theme each time).



How many times may the course be repeated for credit?	<input type="text"/>	TIMES
If the course can be repeated for credit, what is the maximum number of credit hours that may be earned for this course?	<input type="text"/>	CREDITS
If the course can be repeated with <u>variable</u> credit, what is the maximum number of credit hours that may be earned for this course?	<input type="text"/>	CREDITS

13. **GRADING SYSTEM:** Specify only one. Note: Changing the grading system for a course later on constitutes a Major Course Change - Format 2 form.  
 LETTER:  PASS/FAIL:

**RESTRICTIONS ON ENROLLMENT (if any)**

14. **PREREQUISITES**

Senior standing with a GPA of 3.2 or higher. Permission of a Fisheries and Ocean Sciences faculty mentor. Recommended Courses: MSL F450 or MSL F456 and STAT F401 or STAT F402

These will be required before the student is allowed to enroll in the course.

15. **SPECIAL RESTRICTIONS, CONDITIONS**

16. **PROPOSED COURSE FEES**

Has a memo been submitted through your dean to the Provost for fee approval?  
 Yes/No

17. **PREVIOUS HISTORY**

Has the course been offered as special topics or trial course previously?  
 Yes/No

If yes, give semester, year, course #, etc.:

18. **ESTIMATED IMPACT**

WHAT IMPACT, IF ANY, WILL THIS HAVE ON BUDGET, FACILITIES/SPACE, FACULTY, ETC.

The addition of MSL 499 will have no impact on budgets, facilities/space, or faculty. The course content will be offered as part of normal faculty teaching workloads.

19. **LIBRARY COLLECTIONS**

Have you contacted the library collection development officer (kljensen@alaska.edu, 474-6695) with regard to the adequacy of library/media collections, equipment, and services available for the proposed course? If so, give date of contact and resolution. If not, explain why not.

No  Yes

Collections will not be needed. Peer-reviewed publications are on-line.

20. **IMPACTS ON PROGRAMS/DEPTS**

What programs/departments will be affected by this proposed action? Include information on the Programs/Departments contacted (e.g., email, memo)

No other programs or departments at UAF will be impacted by this addition.

21. **POSITIVE AND NEGATIVE IMPACTS**

Please specify positive and negative impacts on other courses, programs and departments resulting from the proposed action.

The positive impacts of this course are that students will better understand the scientific process by completing a senior thesis. They will work with a faculty mentor on the development and completion of a science project that will results in a manuscript that can be submitted to a scientific journal. This skill will provide much needed practical experience that will be useful in furthering the student's career or

graduate school potential. This will be their capstone course. There are no perceived negative impacts.

**JUSTIFICATION FOR ACTION REQUESTED**

The purpose of the department and campus-wide curriculum committees is to scrutinize course change and new course applications to make sure that the quality of UAF education is not lowered as a result of the proposed change. Please address this in your response. This section needs to be self-explanatory. Use as much space as needed to fully justify the proposed course.

The change of the BS in Fisheries to a BS in Fisheries and Ocean Sciences will result in a new concentration (Ocean Sciences). A new capstone course is needed for this concentration so that it better suits Ocean Sciences students. The capstone course for the Fisheries Science concentration has a fisheries focus (FISH 487 Fisheries Management). This capstone course will require students to demonstrate appropriate skill levels in communication and quantitative analysis by completing a guided project. It will also integrate material from the major required courses in a way that students can be evaluated for their performance, and intellectual and practical capabilities.

*See attached -*

**APPROVALS:** Add additional signature lines as needed.

	Date	
Signature, Chair, Program/Department of:		

	Date	
Signature, Chair, College/School Curriculum Council for:		

	Date	
Signature, Dean, College/School of:		

Offerings above the level of approved programs must be approved in advance by the Provost.

	Date	
Signature of Provost (if above level of approved programs)		

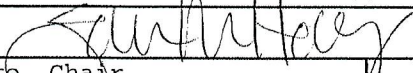
**ALL SIGNATURES MUST BE OBTAINED PRIOR TO SUBMISSION TO THE GOVERNANCE OFFICE**

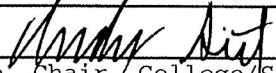
	Date	
Signature, Chair Faculty Senate Review Committee: ___Curriculum Review ___GAAC ___Core Review ___SADAC		

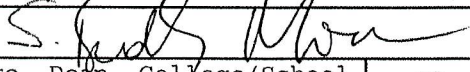
**ADDITIONAL SIGNATURES:** (As needed for cross-listing and/or stacking)

	Date	
Signature, Chair, Program/Department of:		

**APPROVALS: Add additional signature lines as needed.**

	Date	3/2/16
Signature, Chair, Program/Department of: Sarah Hardy, GPMSL Chair		

	Date	3/3/16
Signature, Chair, College/School Curriculum Council for:		

	Date	3/3/16
Signature, Dean, College/School of: Brad Moran, Dean SFOS		

**Offerings above the level of approved programs must be approved in advance by the Provost.**

	Date	
Signature of Provost (if above level of approved programs)		

**ALL SIGNATURES MUST BE OBTAINED PRIOR TO SUBMISSION TO THE GOVERNANCE OFFICE**

	Date	
Signature, Chair		
Faculty Senate Review Committee: <input type="checkbox"/> Curriculum Review <input type="checkbox"/> GAAC		
<input type="checkbox"/> Core Review <input type="checkbox"/> SADAC		

**ADDITIONAL SIGNATURES: (As needed for cross-listing and/or stacking)**

	Date	
Signature, Chair, Program/Department of:		

	Date	
Signature, Chair, College/School Curriculum Council for:		

	Date	
Signature, Dean, College/School of:		



**ATTACH COMPLETE SYLLABUS (as part of this application).** This list is online at: <http://www.uaf.edu/uafgov/faculty-senate/curriculum/course-degree-procedures-/uaf-syllabus-requirements/>  
The Faculty Senate curriculum committees will review the syllabus to ensure that each of the items listed below are included. If items are missing or unclear, the proposed course (or changes to it) may be denied.

**SYLLABUS CHECKLIST FOR ALL UAF COURSES**

During the first week of class, instructors will distribute a course syllabus. Although modifications may be made throughout the semester, this document will contain the following information (as applicable to the discipline):

**1. Course information:**

Title,  number,  credits,  prerequisites,  location,  meeting time (make sure that contact hours are in line with credits).

**2. Instructor (and if applicable, Teaching Assistant) information:**

Name,  office location,  office hours,  telephone,  email address.

**3. Course readings/materials:**

Course textbook title,  author,  edition/publisher.  
 Supplementary readings (indicate whether  required or  recommended) and  
 any supplies required.

**4. Course description:**

Content of the course and how it fits into the broader curriculum;  
 Expected proficiencies required to undertake the course, if applicable.  
 Inclusion of catalog description is *strongly* recommended, and  
 Description in syllabus must be consistent with catalog course description.

**5.  Course Goals (general), and (see #6)**

**6.  Student Learning Outcomes (more specific)**

**7. Instructional methods:**

Describe the teaching techniques (eg: lecture, case study, small group discussion, private instruction, studio instruction, values clarification, games, journal writing, use of Blackboard, audio/video conferencing, etc.).

**8. Course calendar:**

A schedule of class topics and assignments must be included. Be specific so that it is clear that the instructor has thought this through and will not be making it up on the fly (e.g. it is not adequate to say "lab". Instead, give each lab a title that describes its content). You may call the outline Tentative or Work in Progress to allow for modifications during the semester.

**9. Course policies:**

Specify course rules, including your policies on attendance, tardiness, class participation, make-up exams, and plagiarism/academic integrity.

**10. Evaluation:**

Specify how students will be evaluated,  what factors will be included,  their relative value, and  how they will be tabulated into grades (on a curve, absolute scores, etc.)  Publicize UAF regulations with regard to the grades of "C" and below as applicable to this course. (Not required in the syllabus, but is a convenient way to publicize this.) Link to PDF summary of grading policy for "C":

[http://www.uaf.edu/files/uafgov/Info-to-Publicize-C\\_Grading-Policy-UPDATED-May-2013.pdf](http://www.uaf.edu/files/uafgov/Info-to-Publicize-C_Grading-Policy-UPDATED-May-2013.pdf)

**11. Support Services:**

Describe the student support services such as tutoring (local and/or regional) appropriate for the course.

**12. Disabilities Services:** Note that the phone# and location have been **updated**.

<http://www.uaf.edu/disability/> The Office of Disability Services implements the Americans with Disabilities Act (ADA), and ensures that UAF students have equal access to the campus and course materials.

State that you will work with the Office of Disabilities Services (208 WHITAKER BLDG, 474-5655) to provide reasonable accommodation to students with disabilities.

**MSL F499 SENIOR THESIS**  
**FALL, SPRING, AND SUMMER SEMESTER 2016-2017**

Instructor/Office Hours  
Faculty/TBA

Meeting Location and Time  
N/A

Course Credits  
3 credits (for letter grade)

Contact Hours

Time spent with the faculty mentor in individual instruction will vary depending on the student's progress on the thesis proposal; however, at least 120 hours of supervised scholarly activity must occur during the semester to complete a senior thesis proposal.

Course Prerequisites

Fisheries and Ocean Sciences major with Ocean Sciences concentration and senior standing with a GPA of 3.2 or higher. Permission of a Fisheries and Ocean Sciences faculty mentor.  
Recommended Courses: MSL F450 or MSL F456 and STAT F401 or STAT F402.

Course Description

Under the supervision and mentorship of a Fisheries and Ocean Sciences faculty member, students will complete a self-designed scholarly project that is the capstone of a student's exemplary academic performance in the Bachelor of Science in Fisheries and Ocean Sciences degree program with an Ocean Sciences concentration. For MSL 499 Senior Thesis, the student will complete analysis of field and/or laboratory data collected during one of the field courses or through laboratory work or other field research with a Fisheries and Ocean Sciences faculty member. The student will work with the faculty mentor to develop a research paper/manuscript that will interpret the study results and cast them within the context of the existing literature relevant to the study topic. Students will be expected to work with their senior thesis mentor to submit the manuscript for peer review to a scientific journal. In addition, students will be required to present the results of their study at the SFOS Undergraduate Internship Symposium, UAF Research Day, and/or at a state, or national meeting, such as the Alaska Marine Science Symposium. Participation in this program will count towards the Experiential Learning requirement for the B.S. Fisheries and Ocean Sciences degree program.

Course Goal and Student Learning Objectives

Hands-on research provides undergraduate students with an opportunity to enrich their educational experience, accelerate their development as young professionals, and hone skills that are needed to complete graduate- and career-level research. To become familiar with the process of scientific inquiry, including research goal definition, the scientific method, technical write-up, oral presentation of results, and publication of a manuscript, a senior thesis is an irreplaceable experience. As such, MSL 499 will focus on completing analysis of the collected data during a field course or through other laboratory or field research and development of a comprehensive written research manuscript for submission to a scientific journal. Students will also be required to present their senior thesis at one of several different symposia held on the UAF campus or at another state, or national meeting.



The senior thesis will improve the ability of students to find employment and additional educational opportunity after their Fisheries and Ocean Sciences B.S. degree has been completed. Employers and prospective graduate schools value research experience because it demonstrates the ability of a student to successfully complete a large-scale project that requires analytical, critical thinking, and oral and written communication skills. Undergraduate students frequently develop close and long-term professional relationships with their research mentors, and the example that mentors provide can be a lasting inspiration for students to become life-long learners in their field of choice. Specific student learning objectives associated with this course include the following:

- a. Develop an understanding of how to critically analyze data and integrate results within the context of the existing scientific literature;
- b. Present scientific research effectively in written, visual, and oral formats;
- c. Sharpen critical thinking, written communication, data collection, and analysis skills.

#### Support/ Disabilities Services

If students need accommodation because of a disability, please contact the faculty mentor and SFOS internship coordinator as soon as possible to make the necessary arrangements with the Office of Disabilities Services (203 WHIT, 474-7043).

#### Instructional Methods

Students will learn from individual instruction from their faculty senior thesis mentor. In general, this course will require a significant degree of self-directed study.

#### Reading Assignments

There is no required text for this course; however, students will be required to conduct an extensive literature survey to develop their senior thesis proposal.

#### Course Calendar

The scheduling and timeline of MSL 499 should be agreed upon between the student and faculty mentor within the first week of the semester the student is enrolled in the course. Below is an example of a general timeline that can be used as a template for a more detailed, specific timeline to be revised by the student and his/her senior thesis mentor for MSL 499.

- Month 1: Completion of data analysis and summary of results;
- Month 2: Completion of the interpretation of study results;
- Month 3: Completion of the written senior thesis, including project title, abstract, introduction, methods, results, discussion, and literature cited;
- Month 4: Oral or Poster presentation of research at an UAF undergraduate research symposium or a state or national meeting; submission of the written manuscript to a scientific journal for peer review.

#### Course Assignments



1. Written Senior Thesis: Theses can vary between 20 to 50 pages in length, and can take the form of one or more research manuscripts. A basic thesis outline is provided below:

Introduction

Background/justification

Study objectives

Expectations/hypotheses

Methods

Study site description

Data collection methods

Data analyses

Results

Clear results/figures and tables of data

Discussion/Conclusions

Summary of results and interpretation

Implications within the context of the literature

Literature Cited

All literature cited completely, minimal use of web resources, peer-reviewed literature (journal articles)

2. Presentation: Students enrolled for senior thesis are required to present their study results at the SFOS Undergraduate Internship Symposium. In addition, students enrolled for senior thesis credits are also encouraged to give a presentation at the UAF Research Day, which takes place in late April and/or at a state or national meeting.

### Grading

**For senior thesis, failure to turn in any of the required assignments is grounds for a failing grade.** Because the senior thesis is based on the individual experience, a grading curve does not apply. Assignments are as follows (details for each assignment are listed above): timeline, pre-proposal, proposal, and data collection and analysis.

Letter Grade Breakdown: (1) Faculty Evaluation of Timeline Completion 5%; (2) Senior Thesis 80% (breakdown as follows: abstract 10%, introduction 15%, methods 15%, results 20%, discussion 25%, literature cited 10%); and (3) Oral or Poster Presentation 15%. All letter grades will be based on an absolute 90-80-70-60 scale (e.g.,  $\geq 90\%$  = A, and so on).

### Course Policies

1. Late Assignments: All assignments are due to the faculty mentor by the dates indicated on the senior thesis timeline. If a student cannot turn in an assignment on time for a legitimate reason, it is the responsibility of the student to contact the faculty mentor (not the SFOS internship coordinator) prior to the date in question to not to receive a penalty.
2. Academic Honesty: All assignments are to be entirely the student's own work, unless the student receives specific instructions to the contrary. All aspects of this course are covered by the UAF Honor system. Any suspected violations will be promptly reported

and appropriate action(s) will be taken. Honesty in your academic work will develop into professional integrity. The faculty, staff, and students of the UAF will not tolerate any form of academic dishonesty.