3 - Trial

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

SUBMITTED BY:

Department	**Institute of Marine Science**	**College/School**	**School of Fisheries and Ocean Sciences**

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

[redacted]

ENGL F213X; ENGL F414; FISH F425; or permission of instructor. **Cross-listed with NRM F487. (3+0)**

MSL 694 Physical, Chemical, and Biological Interactions in the Oceans
3 Credits Offered Fall 2013

This course takes an interdisciplinary look at the interactions between physical, chemical and biological processes in the ocean. A wide range of spatial scales will be considered, ranging from the large ocean gyres down to the physiochemical scales on which individual bacteria, phytoplankton and zooplankton function. The course covers case studies that provide examples of the processes, connections, and feedbacks that control the biological, chemical, and physical variability

15. SPECIAL RESTRICTIONS, CONDITIONS none

16. PROPOSED COURSE FEES $ 0

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

17. PREVIOUS HISTORY

[redacted]

18. ESTIMATED IMPACT

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

Course will require regular classroom space and is part of the normal teaching workload of th[redacted]

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

ATTACH COMPLETE SYLLABUS (as part of this application). The guidelines are online:
http://www.uaf.edu/uafgov/faculty-senate/curriculum/course-degree-procedures-/uaf-syllabus-requirements/

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):

Physical, Chemical, and Biological Interactions in the Oceans
MSL 694
Proposed Fall 2013 Syllabus

Instructor:
Dr. Andrew McDonnell
Assistant Professor of Oceanography
School of Fisheries and Ocean Sciences
231 Irving II
907-474-7529
amcdonnell@alaska.edu
Office Hours: TBD

Class meeting times: TBD
Location: TBD
Prerequisites: Graduate standing and completion of at least one of the following core oceanography courses: MSL 620 - Physical Oceanography, MSL 650 - Biological Oceanography, or MSL 660 - Chemical Oceanography; or permission of instructor.
3 credits

[redacted]

Class Participation:

Attendance, participation in class sessions, discussions, and presentations is required and factors into the

Course Readings/Homework:

The assigned course readings are all required and essential to meeting the course learning objectives

Please pay attention to the syllabus and keep up with the reading assignments. Homework assignments

After weighting the total scores from each category according to the weights specified above, total grade

percentages will be rounded to the nearest whole percentage point and letter grades will be assigned according to the following scale (no plus or minus grading):

A: >90%
B: 80-89%
C: 70-79%
D: 60-69%
F: <59%

Course Policies

Attendance to class is required and it is expected that each student contributes questions, comments, and

Course Schedule

Class Session	Date	Topic	Reading
1		Course Introduction and Concept Mapping	Syllabus
2		Boundary Layers and phytoplankton	Mann and Lazier, Ch. 2
3		Zooplankton in a viscous environment	Mann and Lazier, Ch. 2
4-5		Ecosystem Engineers: Biology Shaping the Physical/Chemical Environment	Brietburg et al, 2010
6		Plankton Patchiness	Martin 2003
7-8		Vertical Structure of the open ocean: mixed layer dynamics	Mann and Lazier, Chpt. 3; Dewar et al 2006
9-10		Coastal Upwelling	Mann and Lazier, Ch. 5;
11-12		Fronts, Jets, and Squirts	Mann and Lazier, Ch. 6
13-14		Dispersal of particles, plankton, and larvae	Williams and Follows Ch. 3; Largier 2003; Gilg et al 2003; Morgan & Fisher 2010
15-16		Eddies, nutrient supply, and production	Williams and Follows Ch. 9; Ladd et al

Dynamics of Marine Ecosystems : Biological-Physical Interactions in the Oceans - 3rd Edition (2006), by K. Mann and J. Lazier. Blackwell Publishing.

Ocean dynamics and the carbon cycle: principles and mechanisms, (2011) Williams, R. G., & Follows, M. J. Cambridge University Press.

Journal Articles (To be distributed in class or on Blackboard one week prior to assignment due date)

Breitburg, D. L., Crump, B. C., Dabiri, J. O., & Gallegos, C. L. (2010). Ecosystem engineers in the pelagic realm: