

today

96-UNC

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	Marine Science and Limnology	College/School	SFOS
Prepared by	Andrew McDonnell	Phone	907-474-7529
Email Contact	amcdonnell@alaska.edu	Faculty Contact	Andrew McDonnell

1. ACTION DESIRED (CHECK ONE):

Trial Course	<input type="checkbox"/>	New Course	<input checked="" type="checkbox"/>
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2. COURSE IDENTIFICATION:

Dept	MSL	Course #	215 ²¹⁶	No. of Credits	3
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Justify upper/lower division status & number of credits: This course provides an excellent follow on study to topics learned in 100 level courses in ocean, geological, and atmospheric sciences. As such, this class fits the criteria of a lower division course as defined in University regulation 10.04.090. Three hours of lecture along with the requisite outside study are commensurate with a 3-credit course.

3. PROPOSED COURSE TITLE: The Oceans and Global Change

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

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 NO If yes, Dept. Course #

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: Fall
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 2015

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)

<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input checked="" type="checkbox"/> 6 weeks to full semester
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OTHER FORMAT (specify)

Mode of delivery (specify lecture, field trips, labs, etc) **Lecture**

9. CONTACT HOURS PER WEEK:

3	LECTURE hours/weeks		LAB hours /week		PRACTICUM hours /week
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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 F216 The Oceans and Global Change
3 Credits Offered Fall

Explores how global environmental changes are affecting Earth's oceans. Topics include climate change and ocean warming, sea level rise, coastal erosion, declining sea ice, changes in ocean circulation and ecosystems, oceanic uptake of carbon dioxide, ocean acidification, ocean pollution, dead zones, and climate engineering. The course will investigate the causes, effects, and implications of changes in the oceans. *Prerequisite: MSL F111X, MSL F211, ATM F101X, ENVI F101, or GEOG F111X. (3+0)*

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:	<input type="checkbox"/>	NO:	<input checked="" type="checkbox"/>
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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

MSL111X, MSL211, ATM 101X, ENVI F101, or GEOG 111X

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

Yes

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

Fall 2014, MSL F294 (Trial course)

18. ESTIMATED IMPACT

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

Need for classroom space with videoconferencing capabilities. This course will be a part of the instructor's normal workload teaching assignment in SFOS, so it will not have any additional impacts on budgets or faculty workload assignments beyond what is already being accounted for.

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

x

Emailed library on December 16, 2015 explained that no resources are required for the course beyond journal articles that are available through their website

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)

The minor in Marine Science will benefit by gaining another course option in a program that currently has few offerings. This will give more students a better opportunity to complete the minor and find the appropriate courses to fit their schedules and needs. No similar course exists in the curriculum or in other programs/departments at UAF, thus there is a need to cover this critically important and relevant subject material. The trial course was very successful and attracted students from multiple majors across the university.

21. POSITIVE AND NEGATIVE IMPACTS

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

This course allows students to expand on the principles introduced in introductory courses on the Earth and its oceans. No negative impacts are expected by offering this course.

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 minor in Marine Science is in need of additional course options at the 200 and 300 level and this course will help fill that need. Increasingly, issues of global change and their effect on the oceans and the resources they provide are of high relevance to the global environment and our daily lives as humans. These issues are also very important for Alaska and Alaskan residents. For these reasons, this course will enhance the quality and breadth of UAF education, and will be of use to students with a variety of majors.

APPROVALS: Add additional signature lines as needed.

<i>See attached</i>	Date	
Signature, Chair, Program/Department of: <i>GPMSL</i>		

<i>See attached (same email)</i>	Date	
Signature, Chair, College/School Curriculum Council for: <i>SPOS</i>		

<i>[Signature]</i>	Date	<i>12/17/14</i>
Signature, Dean, College/School of: <i>SPOS</i>		

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:		

	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

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.

5/21/2013

The Oceans and Global Change

MSL F216

Instructor:

Dr. Andrew McDonnell

Assistant Professor of Oceanography

School of Fisheries and Ocean Sciences

907-474-7529

amcdonnell@alaska.edu

Office: 231 Irving II

Office Hours: Tuesday & Thursday, 2-3 pm or by appointment

Class meeting times: MWF 2:15-3:15 pm

Location: 105 Murie

Prerequisite: MSL F111X, MSL F211, ATM F101X, ENVI F101, or GEOG F111X

3 credits

Course Description: Explores how global environmental changes are affecting Earth's oceans. Topics include climate change and ocean warming, sea level rise, coastal erosion, declining sea ice, changes in ocean circulation and ecosystems, oceanic uptake of carbon dioxide, ocean acidification, ocean pollution, dead zones, and climate engineering. The course will investigate the causes, effects, and implications of changes in the oceans.

Course Goals: The goal of this course is to gain an understanding of the ocean's role in global environmental change, and how these processes are influenced by and affect human activities.

Learning Objectives

- Understand how the oceans operate as part of the broader earth system
- Learn about how human activities impact the oceans
- Develop the ability to analyze, interpret, connect, and discuss earth system data as indicators of change
- Learn about uncertainty in global change science and how scientific inquiry can reduce uncertainties
- Evaluate the potential societal, economic, security, and cultural implications of our changing oceans
- Understand the role of oceanic changes in the context of current events
- Assess the feasibility of deliberate actions to mitigate global change and its impacts

Instructional methods: This course will achieve the intended learning outcomes through the use of lectures, demonstrations, group discussions, and homework assignments. There will be an emphasis on active learning, and as such, your participation in class is very important.

Reading Assignments: The course will rely on a variety of readings and resources depending on the subject matter being covered (see end of syllabus for some of the core references). Readings will be assigned regularly from various sources that are available on the internet, as free electronic resources from the UAF Library, or distributed by the instructor. Reading assignments are essential for realizing the course's learning objectives, your participation in class, and your performance on the quizzes, homework, and exams.

Homework Assignments: The homework assignments are essential to meeting the course learning objectives. Assignments will focus on both a conceptual, quantitative, and applied understanding of the subject material. Students are encouraged to utilize the instructor's scheduled office hours if assistance is needed to complete the assignments. Each homework assignment is worth 100 points. A total of 3 assignments will be given, making for a total of 300 points possible in the Homework grading category.

These points will be weighted to account for 20% of the total grade. Late submissions of homework will be penalized 20 points for each day after the specified deadline.

Quizzes: Approximately 10 short quizzes will be administered at unannounced times during the lectures. The Quizzes will evaluate your basic understanding of the key concepts presented in the lectures and the readings. You are allowed to use any notes you have made. Quizzes cannot be made up at a later time (unless you have notified the instructor of an excused absence ahead before the class session in which the quiz is administered). For this reason it is important that you attend all class sessions, take good notes, and pay attention to the material we cover during class. Your lowest quiz score will be dropped. Quizzes will be weighted to account for 10% of the total grade.

Current Event Presentations: Each student will be responsible for making TWO short presentations about current events of relevance to the course material. The presentation should draw from a news article or recent scientific finding. Schedule your presentation with the instructor 1 week in advance, after you have selected a current event topic. Your first presentation should be completed before October 15, so do not wait until the last minute.

Midterm Exams: Two Midterm Exams will be given during class period (see calendar). Exams are closed book. Each Mid-Term Exam is worth 100 points, and each exam will be weighted to account for 20% of your total course grade.

Final Exam: A written final exam will be administered during the assigned final exam period. It will focus on evaluating your conceptual understanding of the topics covered in the course and demonstrating your ability to quantitatively interpret earth system data. The exam is closed book. The exam will be worth 10 points and will be weighted to account for 25% of your total course grade.

Grading: Points totals from each of the following categories will be weighted according to the following scale in order to obtain an overall percentage course grade.

- 10% Quizzes
- 5% Current Event Presentation
- 20% Homework Assignments
- 20% Mid Term Exam 1
- 20% Mid Term Exam 2
- 25% Final Exam (Comprehensive)

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:

Total Grade Percentage	Letter Grade
94-100	A
90-93	A-
87-89	B+
83-86	B
80-82	B-
77-79	C+
73-76	C
70-72	C-
67-69	D+
63-66	D
60-62	D-
<60	F

Course Policies: All students are expected to adhere to the Code of Conduct and other policies described in the University of Alaska Fairbanks Catalogue. Infractions related to the Code of Conduct may result in a grading penalty or disciplinary action.

Support Services: Students are encouraged to visit the instructor's office hours for additional help with course concepts, assignments, and exam preparation.

Disability Services: At UAF, the Office of Disability Services (203 WHIT; 474-5655; TTY 474-1827; fyds@uaf.edu) ensures that students with physical or learning disabilities have equal access to the campus and course materials. If you have specialized needs, please contact this office or the instructor to make arrangements.

Class Calendar

Week	Topics	Assignments	Reading
1	Introduction, course overview		Syllabus
2	Oceans as part of the Earth system		Vallis p. 15-34
3	Natural variability in climate	Homework 1 Assigned	Vallis Chpt. 2
4	Global climate change		IPCC: AR5 SPM
5	Global climate change	Homework 1 Due	
6	Ocean warming	Mid-Term 1	
7	Ocean influence on storms and precipitation		Stewart
8	Sea level rise, coastal erosion		Stewart: Coastal Erosion
9	Changes in ocean circulation	Homework 2 Assigned	Handout
10	Carbon dioxide and ocean acidification		Seattle Times: Sea Change
11	Effects on Ecosystems and Fisheries	Homework 2 Due	Handout
12	Nutrient pollution and dead zones	Mid-Term 2	
13	Climate Engineering		Handout
14	Ocean pollution, oil and mineral extraction from the oceans	Homework 3 Assigned	Handout
15	Societal, economic, security, and cultural considerations	Homework 3 Due	
Finals	TBD	Final Exam	

Resources:

- Climate and the Oceans, Vallis, Geoffrey K. 2011.
- Intergovernmental Panel on Climate Change: Fifth Assessment Report
<http://www.ipcc.ch/report/ar5/>
- Stewart, Robert. Our Ocean Planet Oceanography in the 21st Century, Online textbook:
<http://oceanworld.tamu.edu/resources/oceanography-book/contents.htm>
- <http://apps.seattletimes.com/reports/sea-change/2013/sep/11/pacific-ocean-perilous-turn-overview/?prmid=4749>

UA Mail



Christina Neumann <clneumann@alaska.edu>

MSL 215

Ana Aguilar-Islas <amaguilarislas@alaska.edu>
To: Christina Neumann <clneumann@alaska.edu>

Wed, Dec 17, 2014 at 9:07 AM

Christina,
Thanks for sending the updated forms.
He addressed the changes that we suggested. They are ready to go

Ana

[Quoted text hidden]

—

Ana M. Aguilar-Islas
Assistant Professor
School of Fisheries and Ocean Sciences
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Curriculum Committee SFOS

Members: Ana Aguilar-Islas (Chair)
Jeffrey Falke
Katrin Iken
Andres Lopez

5 December 2014

Trial Course

Course Number: MSL 215

Course Title: The Oceans and Global Change

Instructor: McDonnell

First Time of Offering: No

General Comments and Recommendations:

This is a good addition to MSL 200 level electives. The course is likely to continue to have a broad appeal.

Faculty Senate Form:

Clarify and Address the following:

- Section 2: Course number is 215
- Section 7: Fix typo. Should read 2015
- Section 18: Please contact the library. An email letting the library know the topic of new courses and the course's dependence on their resources is sufficient, and will give them information for future acquisitions.
- Section 20: Fix typo. Should read "...appropriate courses to..."
- Section 21: Add "at the 200 and 300 level" after "course options"

Syllabus:

- Prerequisites: Redundancy. Remove "One of the following" or remove the "or" before MSL211.
- Quizzes: Insert "it" after "For this reason...". For clarity, insert "quizz" after "Your lowest..."
- Class Calendar: Include reading assignments on the table