

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	NRM	College/School	SNRAS
Prepared by	P Fix	Phone	6794
Email Contact	pjfix@alaska.edu	Faculty Contact	pjfix@alaska.edu

1. ACTION DESIRED (CHECK ONE):

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

Dept	NRM	Course #	111	No. of Credits	3
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Justify upper/lower division status & number of credits: **This is an introductory course for students beginning our program.**

3. PROPOSED COURSE TITLE: **Introduction to Sustainability Science**

4. To be CROSS LISTED? YES/NO

No	If yes, Dept:		Course #	
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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 #	
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How will the two course levels differ from each other? How will each be taught at the appropriate level?:

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 Spring**

Fall, Spring, Summer (Every, or Even-numbered Years, or Odd-numbered Years) — or As Demand Warrants

7. SEMESTER & YEAR OF FIRST OFFERING (AY2013-14 if approved by 3/1/2013; otherwise AY2014-15)

Spring 15

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	<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 and discussion**

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)*

NRM F111 Introduction to Sustainability Science

3 Credits Offering Spring

Sustaining the health, wellbeing, and productivity of social-ecological systems requires integrated assessments of social, economic, and ecological sustainability challenges. Meeting these challenges often requires action plans that move from understanding theory to the implementation of new policies and facilitation of behavioral change. This course introduces the principles that form the basis of sustainability science, with an emphasis on natural resource management issues. *Prerequisites: NRM 101, Placement in English 111. (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:

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?

TIMES

If the course can be repeated for credit, what is the maximum number of credit hours that may be earned for this course?

CREDITS

If the course can be repeated with variable credit, what is the maximum number of credit hours that may be earned for this course?

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

NRM 101, placement in English 111

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

No

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

18. ESTIMATED IMPACT

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

There are no expected impacts.

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

We do not anticipate impacts to the library.

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)

There should be no negative impacts to other departments.

21. POSITIVE AND NEGATIVE IMPACTS

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

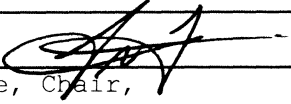
Given the increased emphasis on sustainability at UAF (e.g., the RISE initiative to incorporate sustainability into curriculum and classroom activities), this course should have a positive impact on UAF.

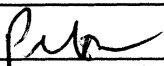
JUSTIFICATION FOR ACTION REQUESTED


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.

We are in the process of changing the NRM degree. As part of that change our program will now place a stronger emphasis on sustainability, as such in introductory course in sustainability science is needed to introduce students to the concepts they will be expected to apply in more advance courses.

APPROVALS: Add additional signature lines as needed.

	Date	10-4-13
Signature, Chair, Program/Department of:		Humans & the Environment

	Date	10/4/13
Signature, Chair, College/School Curriculum Council for:		SNRA1

	Date	10/4/13
Signature, Dean, College/School of:		SNRAS

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.

NRM 111 INTRODUCTION TO SUSTAINABILITY SCIENCE

Prerequisites: NRM 101, Placement in English 111

Course Information

Meeting time and location: MWF, 9:15 – 10:30 a.m.; AHRB 183

Instructor: Dr. Gary Kofinas, Professor of Resource Policy and Management. Phone: 907 474 7078;

email: gary.kofinas@alaska.edu

Course Description

Sustaining the health, wellbeing, and productivity of the global social- ecological system requires considerations from many disciplinary and cultural perspectives. Social, economic, and ecological assessment of sustainability challenges need to be considered in an integrated way to arrive at robust solutions that avoid unanticipated consequences. Meeting these challenges often requires action plans that move from understanding theory to the implementation of new policies and facilitation of behavioral change.

This course studies dimensions of achieving sustainability. It draws on several underlying principles, including systems thinking, resilience theory, ecological economics, vulnerability analysis, and adaptive governance. The class explores the roots of sustainability science as it has developed in various fields of study and through interdisciplinary inquiry, and explores ways of integrating these concepts, through lectures, student-led classes, and student group action projects that center on specific problem areas. Emphasis throughout the course will be on societal goals, tradeoffs, conditions affecting stability and change, thresholds or tipping points, feedbacks, human-environment relations, and their dynamics at various temporal and spatial scales.

Course Goals

- Develop an understanding of conceptual frameworks for understanding sustainability
- Develop knowledge of tools and methods for analyzing real-world issues related to sustainability
- Apply these principles and methods through student led projects, focusing on a sustainability problem

Learning Objectives

- Familiarity with terms and concepts used in sustainability science
- The ability to identify social, economic, and ecological aspects of sustainability
- Knowledge to integrate social, economic, and ecological aspects of sustainability to contemporary issues

Important dates:

- February 2 – Exam 1
- April 15 – Exam 2
- April 17 through May 4 – student group led classes based on readings
- May TBD – student presentations about projects
- May TBD – student final papers due

Assignments/Requirements

Reflection Papers: Students will be assigned reflection papers throughout the course. Reflections will give students an opportunity to discuss questions that arise in class lectures and discussions, and to articulate their understanding of the course material. Each reflection paper is no longer than three pages in length and is submitted before class in the session noted in the syllabus.

Directed Assignments: Homework that requires responses to specific questions will also be assigned. The questions will take the form of a series of short answers to questions, a set of quantitative calculations regarding a topic discussed in class, or analyzing a specific case study.

Exams: Two exams will be administered. The exams will pose questions with an expectation of essay responses that reference course material and apply concepts, theories, and frameworks presented and discussed in lectures, readings, and lectures.

Student group led classes based on readings: Students will be put into groups by the instructor and together prepare and present a class on a pre-assigned reading. All students in the class are expected to read the paper. The group is also expected to go beyond the reading to examine additional material related to the topic area. The group should guide the class in reviewing the essential elements of the paper and the greater topic area, engage students in discussions, and raise questions related to the paper and the topic area.

Final Projects: Student projects focus on a problem area of sustainability in Alaska. Each student develops and tests hypotheses related to the problem and proposes action plans to address the problem. Solutions should be evaluated for feasibility, tradeoffs, and robustness. The paper will be no more than 12 double-spaced pages in length (plus bibliography, abstract, figures and tables). The paper should apply one or more theories and frameworks studied in class in the context of the special topic. Each group will meet with the instructor at least once to discuss the student's paper.

Student Presentations on Final Products: Each student will present a speed talk on the project (5 minutes with 5 minutes for questions). Student presentations will be given during the final exam period.

Grades

Students are expected to complete all of the assigned readings in advance of the class for which they are assigned and to come to every class prepared to discuss these readings. You will be graded on a combination of your :

- Contributions to class discussion - 5%
- Assignments (reflection papers and directed assignments) – 30%
- Exams – 30%
- Student-led class – 10%
- Group project presentation – 10%
- Group paper– 15%

Each assignment and requirement will be evaluated on the following basis:

5 points: Is original, unique, ambitious and outstanding in concept, design and execution. Execution of work is considered excellent and demonstrated deep understanding and experimentation with materials and techniques. All work is finished on time and presented clearly and attractively. Technical challenges are actively tackled and overcome.

4 points: Work is well executed with a high degree of competency and range of techniques. Work meaningfully fulfills the criteria of the assignment and communicates the concept. Work is well presented and on time.

3 points: Work is complete but average in concept, design and technique. Work is limited by technical weakness and limited technique. Although satisfactory the work could use improvement.

2 point: Work is poor in design, concept and execution. Work is poorly presented or unfinished. Work is not innovative, creative or showing self-motivation. Technical skills are not mastered.

1 point: Work represents minimal effort, does not demonstrate understanding of material, is not well articulated or well organized.

0 points: The student did not hand in work. Work does not address the criteria of the assignment. Work fails to meet the minimum requirements of the professor in quality or quantity.

Participation Grading Standard in relationship to Grade Scale above:

5 points: Student is alert, focused, thoughtful, and responsive during class discussion and critiques. Student makes frequent supportive critical statements regarding classmates' work during critiques. Student enriches the classroom experience by demonstrating that s/he has done all required homework and research.

4 points: Student is thoughtful and responsive during class discussion and critiques. Student makes few supportive critical statements regarding classmates' work during critiques. Student adequately demonstrates that s/he has done all required homework and research.

3 points: Student occasionally contributes to class discussions and critiques. It is not readily apparent that s/he has done all required homework and research.

2 points: Student rarely contributes.

1 point: Student is silent during critiques. Student is unprepared for class, but does not detract from the discussion.

0 points: Student is unprepared for class. Student makes hurtful or thoughtless comments during critiques which detract from the discussion.

Grading:

The following grading scale will apply:

A - 90 to 100 (A- 90-91; A+ 99-100)

B - 80 to 89 (B- 80-81; B+ 88-89)

C - 70 to 79 (C- 70-71; C+ 78-79)

D - 60 to 69 (D- 60-61; D+ 68-69)

F - < 60

Adaptation

The instructors reserve the right to modify the course syllabus and final grade in consideration of notable progress demonstrated by an individual, or unforeseen and extenuating circumstances. In such cases, extra credit assignments and/or makeup work may be used at the discretion of the instructors. Assignments handed in after the due dates will receive reduced credit.

Instructional Methods

The course will use a combination of lectures, student discussions, and student presentations. This class is interactive, relying on strong student contribution. We hope to engender a respectful and productive atmosphere that encourages the joint class exploration of course themes. This class will work best if everyone participates.

Classroom policy:

Checking e-mails, typing papers for other classes, playing games, browsing the Internet, instant messaging, using cell phones and other activities not related to the class should be done during breaks or outside of the class time. Typing, excessive clicking and listening to music are not allowed during presentations and lectures. Students are expected to spend at least several hours/week outside of the class to complete assignments. The lab will be available to students except during the time slots used by other classes.

Students must save and backup files. Do not store your projects only on the lab computers. Please save often and backup your files.

Attendance

Students are expected to attend all classes. If it is necessary to miss a class, contact the instructors beforehand to inform them of your plans and request guidance on how to make up missed classroom learning. We encourage students to join the class remotely (UAF video conferencing or via Skype) if on travel.

Student Code of Conduct

According to the UAF code of conduct "Students will not collaborate on any quizzes, in-class exams, or take-home exams that will contribute to their grade in a course, unless the instructor of the course grants permission.... Students will not represent the work of others as their own. A student will attribute the source of information not original with himself or herself (direct quotes or paraphrases) in compositions, theses, and other reports.... No work submitted for one course may be submitted for credit in another course without the explicit approval of both instructors....." Students are expected to abide by the UAF

An explanation of plagiarism and how to properly cite sources are available at the following two sites:

<http://www.uaf.edu/library/instruction/handouts/Plagiarism.html>

<http://www.uaf.edu/library/instruction/handouts/Citing.html>

Plagiarism is grounds for course failure.

UAF Policies Disabilities Services

The University of Alaska Fairbanks is committed to providing equal access for students with disabilities. The Office of Disability Services implements the Americans with Disabilities Act (ADA) and insures that UAF students have equal access to the campus and course materials. We will work with the Office of Disabilities Services (203 WHIT, 474-5655) to provide reasonable accommodation to students with disabilities. If you have a physical or learning disability, please advise us in writing of any special consideration necessary by the beginning of the second class. We will do everything possible to accommodate you in accordance with the Americans with Disabilities Act. Priority seating close to the board and screen is provided for students who need to be in close proximity to the board.

Blackboard & Distance Delivery

We will use the UAF Blackboard site for this course to send emails and post readings, assignments and other materials. Blackboard can be accessed at <http://classes.uaf.edu>. Email notification through Blackboard will not work for a non-UAF email address. If you principally use a non-UAF email service, (such as yahoo) go to your UAF account and forward your UAF email to that address. You are responsible for all emails sent to your UAF email account. Blackboard resources, links and support information are available at the UAF Blackboard homepage.

Readings: No single text will be used. An e-reader of articles, book chapters, websites, and on-line videos will be assigned and discussed.

Class Schedule (subject to revision)

Session	Topic	Reading	Assignment
1/ 16	Class introduction	Review Syllabus	Understand course policies
Part 1 –The Sustainability Challenge			
1/21, 23, & 26	Why civilizations collapse	Diamond 2004	Factors of collapse. Due 9/12
1/28, 30, & 2/2	How civilizations reinvent themselves	Goerner et al. 2008	Reflection paper: collapse and reinvention, due 9/19
2/4, 6, & 9	Population or consumption?	MEC 2005	Population/consumption problem set, due 9/24
2/11 & 13	The paradox of development with degradation	Raudsepp-Hearne et al 2010	Reflection paper: population, consumption and degradation, due 9/29
Part 2 – Concepts, Lenses, and Frameworks			
2/16, 18, & 20	Roots of the sustainability concept	Edwards 2005	Sustainability problem set, due 10/6
2/23	Exam 1		
2/25, 27, & 3/2	The dynamics of ecological resilience	Walker and Salt 2012	Identifying drivers of resilience, due 10/15
3/4, 6, & 9	Ecosystem Services	Defries, Foley, & Asner 2004	Reflection paper: ecosystem services
10/11 & 13	Measuring economic sustainability	Costanza 2003	Economic sustainability problem set, due 10/27
3/16 to 3/20 Spring Break, no class			
3/23, 25, & 27	Culture, institutions, and human choice	Ostrom 2009	Reflection paper: human choices & resilience, due 11/3
3/30, 4/1, & 4/3	Systems thinking	Meadows & Marshall 2002	Aspect of systems thinking, due 11/10
4/6	Discussion on student group projects		
4/8, 10, & 13	Vulnerability analysis	Turner 2004	Reflection paper: Vulnerability
4/15	Exam 2		
Part 3 – Special Issues in Sustainability (Student led classes; students select papers that all students read)			
4/17	The energy challenge	TBA	
4/20	Technology and sustainability	TBA	
4/22	Sustaining fisheries	TBA	
4/24	Species diversity and conservation strategies	TBA	
4/27	Greening of agriculture	TBA	
4/29	Urbanization, sprawl, and land use change	TBA	
5/1	Subsistence economies	TBA	
5/4	Transportation	TBA	
5/TBD (Final exam period 8 to 10 am)	Each groups present for 15 minutes on their project.		Group papers due during final exam period