Submit original with signatures + 1 copy + electronic copy to UAF Governance. See http://www.uaf.edu/uafgov/faculty/cd for a complete description of the rules governing curriculum & course changes.

**TRIAL COURSE OR NEW COURSE PROPOSAL**

<table>
<thead>
<tr>
<th>Department</th>
<th>College/School</th>
<th>College of Natural Science and Mathematics</th>
</tr>
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<tbody>
<tr>
<td>Biology</td>
<td>Phone</td>
<td>474-7987 or 7078</td>
</tr>
<tr>
<td>Prepared by</td>
<td>Faculty Contact</td>
<td>TBA</td>
</tr>
<tr>
<td>Catherine Seymour</td>
<td>Contact</td>
<td></td>
</tr>
<tr>
<td><a href="mailto:fncap1@uaf.edu">fncap1@uaf.edu</a></td>
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1. **ACTION DESIRED**
   *(CHECK ONE)*
   - Trial Course
   - New Course *X*

2. **COURSE IDENTIFICATION:**
   - Dept: BIO
   - Course #: F6xx
   - No. of Credits: 1

   This course requires graduate student standing or permission of instructor and is designed to help provide graduate students with ecological background that is necessary for understanding the role of ecology in complex systems involving interactions among biological, economic, and social processes. This course will constitute one of three optional modules for graduate students in the Regional Resilience and Adaptation (RR&A) Program. The other two one-credit modules will be in anthropology and economics. The instructors of all three courses are coordinating their scheduling of the lectures in these modules so that they do not overlap and are available to incoming students in the Resilience and Adaptation Program.

3. **PROPOSED COURSE TITLE:**
   - Ecological Background for Resilience and Adaptation

4. **CROSS LISTED?**
   - YES/NO
   - *Yes* If yes, Dept: NRM
   - Course #: F6xx
   - *(Requires approval of both departments and deans involved. Add lines at end of form for such signatures.)*

5. **STACKED?**
   - YES/NO
   - *No* If yes, Dept: 
   - Course #: 

6. **FREQUENCY OF OFFERING:**
   - Every Fall
   - *(Every or Alternate)* Fall, Spring, Summer – or As Demand Warrants

7. **SEMESTER & YEAR OF FIRST OFFERING**
   - (if approved)
   - Fall 2009

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 one)
     - OTHER FORMAT
     - (specify)

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

   - This course is one of three module courses (Economics, Ecology, Anthropology) and specific time scheduling will depend upon the instructor's schedule. Modules are offered either during the first, second, or final third of the fall semester.

   - Lecture

   - Received
   - OCT 15 2008
   - Dean's Office
   - College of Natural Science & Mathematics
BIOL/NRM F693, 1 credit: Ecological Background for Resilience and Adaptation

This course provides the ecological background that is necessary for understanding the role of ecology in complex systems involving interactions among biological, economic, and social processes. This course is designed for incoming students of the Resilience and Adaptation Program (RAP), who have not received training in ecology.
17. PREVIOUS HISTORY
Has the course been offered as special topics or trial course previously? Yes/No
If yes, give semester, year, course #, etc.:

Fall 2004, Fall 2006, Fall 2007, Fall 2008

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

Course will require a classroom for lecture

19. LIBRARY COLLECTIONS
Have you contacted the library collection development officer (ffklj@uaf.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  x  Yes  __  None required

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 Resilience and Adaptation Program, Biology & Wildlife Dept., School of Natural Resources and Agricultural Sciences

21. POSITIVE AND NEGATIVE IMPACTS
Please specify positive and negative impacts on other courses, programs and departments resulting from the proposed action.

none

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.

Major problems facing the world must be addressed at the regional scale, and solutions to these problems need to be ecologically, economically, and culturally sustainable. A basic understanding in ecology is necessary for understanding the complexity of interactions among biological, economic, and social processes and to appreciate the relevance of these interactions for the management of biological and human resources.
### APPROVALS:

<table>
<thead>
<tr>
<th>Signature, Chair, Program/Department of:</th>
<th>Biology &amp; Wildlife Chair, Richard Boone</th>
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<tbody>
<tr>
<td>Date</td>
<td>9/23/08</td>
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<tr>
<th>Signature, Chair, College/School Curriculum Council for:</th>
<th>Natural Science &amp; Mathematics Chair, Diane Wagner</th>
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<tr>
<td>Date</td>
<td>10/2/2008</td>
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<tr>
<th>Signature, Dean, College/School of:</th>
<th>CNSM, Joan Braddock</th>
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<td>Date</td>
<td>10/16/08</td>
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Signature of Provost (if applicable):  
Offerings above the level of approved programs must be approved in advance by the Provost.

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

<table>
<thead>
<tr>
<th>Signature, Chair, UAF Faculty Senate Curriculum Review Committee</th>
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**ADDITIONAL SIGNATURES: (If required)**

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</table>
APPROVALS:

Signature, Chair, Program/Department of: Resources Management

Date

Signature, Chair, College/School Curriculum Council for: School of Natural Resources and Agriculture Science

Date

Signature, Dean, College/School of: School

Date

Signature of Provost (if applicable)

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

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

Signature, Chair, UAF Faculty Senate Curriculum Review Committee

Date

ADDITIONAL SIGNATURES: (If required)

Signature, Chair, Program/Department of: Resources Management

Date 10-7-08

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

Date 10-10-08

Signature, Dean, College/School of: SNRAS

Date 10-14-08
Ecological Background for Resilience and Adaptation
Biology 693 (aka RAP Ecology Module)
(updated 13 September 2007)

Instructor: A. David McGuire (Biology and Wildlife)
Office: 214 Irving I Building
Phone: 474-6242
E-mail: ffadm@uaf.edu (A. David McGuire)

Time: Tuesday and Thursday, 9:45 – 11:15 am, 6 September – 4 October 2007

Location: 208 Irving I Building

Office Hours: Tuesdays after class, 11:30 am – 12:30 pm, or by appointment

Course Description: Ecological Background for Resilience and Adaptation provides the ecological background that is necessary for understanding the role of ecology in complex systems involving interactions among biological, economic, and social processes. This course is designed for incoming students of the Resilience and Adaptation (RAP) Program that have not received training in ecology.

Prerequisites: Graduate student enrollment or permission of instructor.

Grading Policy: Letter plus/minus grades (+/-) determined from one exam at the end of the course.

Course Web Page: http://mercury.bio.uaf.edu/courses/biol694/mcguire/

Disabilities Services: 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. State that you will work with the Office of Disabilities Services (203 WHIT, 474-7043) to provide reasonable accommodation to students with disabilities.

Lecture Outline

<table>
<thead>
<tr>
<th>Lecture Number</th>
<th>Date</th>
<th>Topic</th>
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<tbody>
<tr>
<td>1</td>
<td>6 September</td>
<td>Course Overview/Introduction</td>
</tr>
<tr>
<td>2</td>
<td>11 September</td>
<td>The Earth's Climate System</td>
</tr>
<tr>
<td>3</td>
<td>13 September</td>
<td>Element Cycles</td>
</tr>
<tr>
<td>4</td>
<td>18 September</td>
<td>Food Webs and Trophic Systems</td>
</tr>
<tr>
<td>5</td>
<td>20 September</td>
<td>Temporal Dynamics of Ecosystems</td>
</tr>
<tr>
<td>6</td>
<td>25 September</td>
<td>Landscape Processes</td>
</tr>
<tr>
<td>7</td>
<td>27 September</td>
<td>Biodiversity Issues</td>
</tr>
<tr>
<td>8</td>
<td>2 October</td>
<td>Managing and Sustaining Ecosystems</td>
</tr>
<tr>
<td>9</td>
<td>4 October</td>
<td>Exam</td>
</tr>
</tbody>
</table>
Readings for the RAP Ecology Module (BIOL 693)

Recommended Text


Other Possible Resources


Readings assigned 6 September

1. Chapter 1 (The Ecosystem Concept) of *Principles of Terrestrial Ecosystem Ecology*.

Readings assigned 11 September

1. Chapter 2 (Earth’s Climate System) of *Principles of Terrestrial Ecosystem Ecology*.

Readings assigned 13 September


Readings assigned 18 September

1. Chapter 11 (Trophic Dynamics) of *Principles of Terrestrial Ecosystem Ecology*.
Readings assigned 20 September

1. Chapter 13 (Temporal Dynamics) of *Principles of Terrestrial Ecosystem Ecology*.


Readings assigned 25 September

1. Chapter 14 (Landscape Heterogeneity and Ecosystem Dynamics) of *Principles of Terrestrial Ecosystem Ecology*.


Readings assigned 27 September

1. Chapter 12 (Community Effects on Ecosystem Processes) of *Principles of Terrestrial Ecosystem Ecology*.

   a. Tilman, D. Causes, consequences and ethics of biodiversity (208-211).
   c. Gaston, K.J. Global patterns of biodiversity (220-221).
   d. McCann, K.S. The diversity-stability debate (228-233).

Readings assigned 2 October

1. Chapter 16 (Managing and Sustaining Ecosystems) of *Principles of Terrestrial Ecosystem Ecology*.

2. Chapter 2 (Managing Ecosystems Sustainably) of Chapin et al. draft resilience textbook.