

May 19, 2011

The Graduate Academic and Advisory Committee of the Faculty Senate approved the following trial course:

UNDERGRADUATE COURSE REQUEST

SCHOOL OF NATURAL RESOURCES AND AGRICULTURAL SCIENCES

(Submitted by Geography)

11-Tr. Trial Course: GEOG F694 - Climate Change Processes: Past, Present, Future, 4 credits

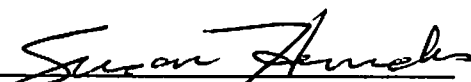
(4-0); cross-list as ATM E694; stacked as GEOG E404 and ATM E404 respectively

prerequisites include Senior standing, in major, in geography or natural sciences, or permission of instructor; letter graded; effective Fall 2011.

Effective: Fall 2011

Rationale: See request attached

APPROVED:


Chancellor's / Provost's Office

DATE

5/20/11

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

SUBMITTED BY:

| | | | |
|-------------|------------------------|----------------|--------------|
| Department | GEOGRAPHY | College/School | SNRAS |
| Prepared by | Patricia Heiser | Phone | 7068 |

1. ACTION DESIRED

(CHECK ONE):

Trial Course

New Course

2. COURSE IDENTIFICATION:

Dept

Course #

No. of Credits

Justify upper/lower division status & number of credits:

Course designed for senior Geog or Nat Science majors.

3. PROPOSED COURSE TITLE:

Climate Change Processes: Past, Present, Future

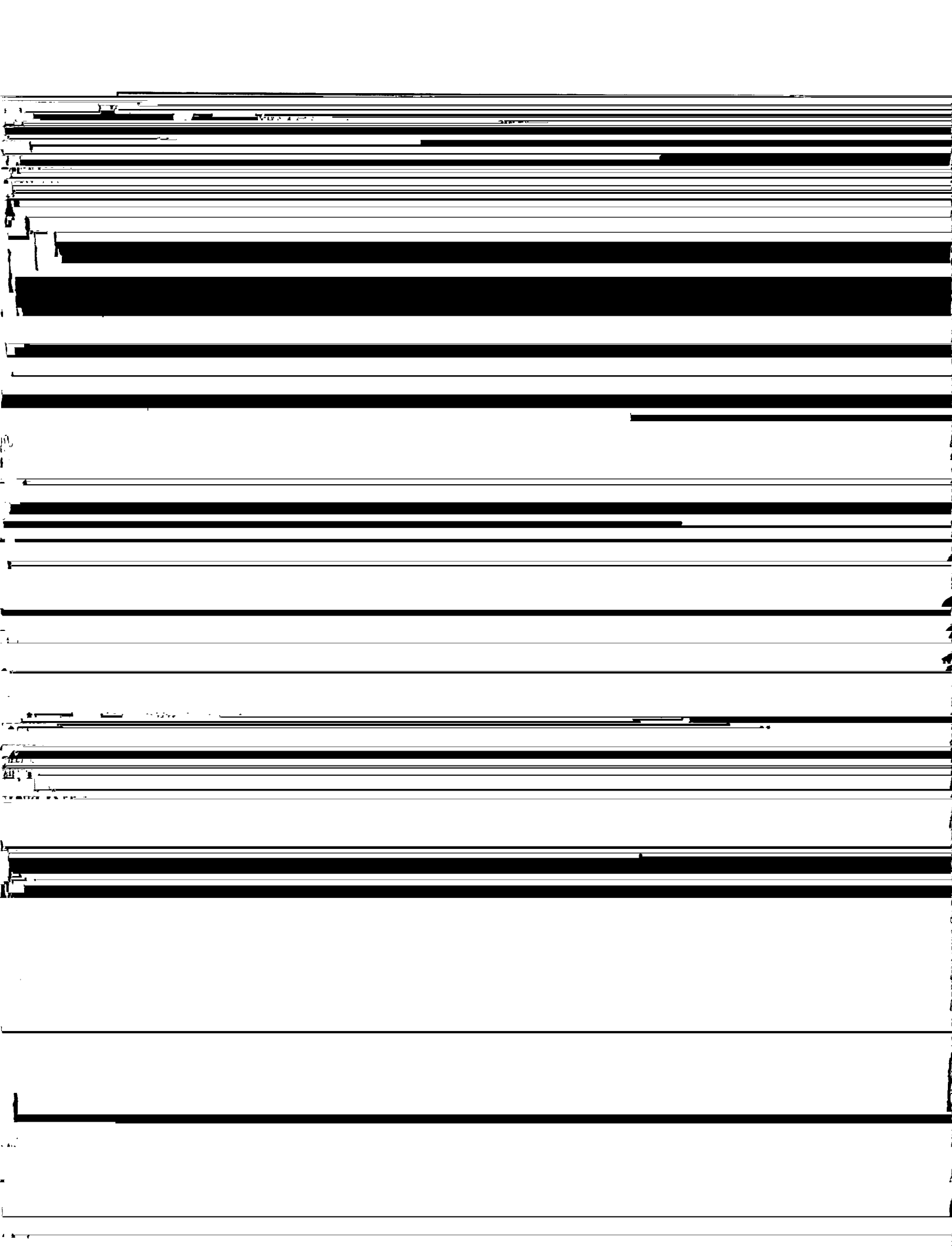
4. To be CROSS LISTED?

YES

If yes, Dept: ATM,

Course # 694

literacy in the rapidly developing field of climate-change science. Students will gain a thorough understanding of Earth climate dynamics and change through the study of both climate history and modern climate processes. Students will be trained to critically evaluate both the validity of paleoclimatic reconstructions and the accuracy of modern climate



APPROVALS: Signatures on file at the Governance Office.

| | |
|--|------|
| | Date |
|--|------|

Signature, Chair, Program/Department of:

| | |
|--|------|
| | Date |
|--|------|

Signature, Chair, College/School Curriculum Council for:

| | |
|--|------|
| | Date |
|--|------|

Signature, Dean, College/School of:

| | |
|--|------|
| | Date |
|--|------|

Signature of Provost (if applicable)

| | |
|--|------|
| | Date |
|--|------|

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

ATTACH COMPLETE SYLLABUS (as part of this application).

Note: The guidelines are online: <http://www.uaf.edu/uafgov/faculty/cd/syllabus.html>

are included. If items are missing or unclear, the proposed course change will 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

GEOGRAPHY (ATM/BIO) 694
Climate Change Processes: Past, Present, and Future
4 CREDITS

Instructors:

Dr. Daniel Mann (primary), Geography Program, School of Natural Resources, UAF
dhmann@alaska.edu, phone: 474-6929. Office: Scenario Network Arctic Planning, Denali Building.

Dr. Uma Bhatt Department of Atmospheric Sciences, 474-2662, bhatt@gi.alaska.edu,
IARC 307 Office Hours: T-TH 12:00-1:00PM and by appointment (send email)

Meeting: Course meets 3 lectures hours per week + 1 hour discussion group/recitation
Time and location TBA

Course Description

This course is a survey of climate change science extending from the paleo-record to modern
climate dynamics and modeling. The class consists of two distinct but integrated topical

Student Learning Outcomes:

Students who are successful in this class will learn these things:

- The basic climate history of Earth including the details of events that occurred during the last 100,000 years with emphasis on Last Glacial Maximum to Holocene transition

- A basic understanding of how the atmosphere, ocean, cryosphere, and biosphere interacted in the course of climate changes in the past.

The basic elements of climate system and climate change.

| Week | Topic | Tuesday 1.5 hours | Thursday 1.5 hours | Friday 1 hour | Key Text |
|--------|---|----------------------|-----------------------|---------------------|----------|
| Week 1 | Introduction to Paleoclimate Reconstruction | J - Mann | J - Mann | J - Bhatt & Mann | Ruddiman |
| Week 2 | Precambrian/Mesozoic Climates | J - Mann | S- Mann | J - Bhatt & Mann | Ruddiman |

Exams, Assignments and Grading:

| | | |
|------------|------------------|-----|
| Exam 1 | Paleoclimates | 15% |
| Exam 2 | Climate Dynamics | 15% |
| Final Exam | | 15% |

| | |
|----------------------|-----|
| Literature Search | 10% |
| Article Review | 10% |
| Semester Project | 20% |
| Project Presentation | 15% |

Exams will cover lecture materials and will be in multiple-choice, short answer and essay format. Students will conduct a literature search in a topic of their choosing. Review and present one article for discussion. Students will work on a semester-length term paper on a topic chosen in

Grade Expectations: All grades are determined on an absolute score as above (with no curve) In general, grades will reflect the following about your class performance:

A = 90-100 percent: outstanding work, mastery of topic

B = 80-89 percent: above average work, all assignments completed

C = 70-79 percent: average work, all assignments completed

GEOGRAPHY (ATM/BIO) 494

Climate Change Processes: Past, Present, and Future

Instructors:

Dr. Daniel Mann (primary), Geography Program, School of Natural Resources, UAF
dhmann@alaska.edu . phone: 474-6929. Office: Scenario Network Arctic Planning. Denali Building.

Office Hours: MWF 9:30-10:30 and by appointment

Dr. Uma Bhatt Department of Atmospheric Sciences, 474-2662, bhatt@gi.alaska.edu,
IARC 307 Office Hours: T-Th – 12:00-1:00PM and by appointment (send email)

Metings: Course meets 2 lecture hours per week + 1 hour discussion group/labitation

Student Learning Outcomes:

Students who are successful in this class will learn these things:

• The basic climate history of Earth including the details of events that occurred during the last

100,000 years with emphasis on Last Glacial Maximum to Holocene transition

• A basic understanding of how the atmosphere, ocean, cryosphere, and lithosphere interact

special topics. The Friday sessions will usually be joint, but may occasionally meet separately. In general these sessions will develop the skills needed to communicate with a wider audience (see above).

| | | | | | |
|--|--------|--|--|------|--|
| | Change | | | Mann | |
|--|--------|--|--|------|--|

Exams, Assignments and Grading:

| | | |
|----------------------|------------------|-----|
| Exam 1 | Paleoclimates | 15% |
| Exam 2 | Climate Dynamics | 15% |
| Field Trip Report | | 15% |
| Literature Search | | 10% |
| Article Review | | 10% |
| Semester Project | | 20% |
| Project Presentation | | 15% |

Exams will cover lecture materials and will be in multiple-choice, short answer and essay format. Students will conduct a literature search in a topic of their choosing. Review and present one article for discussion. Students will work on a semester-length term paper on a topic chosen in consultation with instructor. 15 minute presentation will be given. Details to be posted on Blackboard.

regarding article review assignments, field trip report, and semester project will be posted on Blackboard.

C- 71-70 1.7
D+ 69-67 1.3

D 66-62 1.0
D- 61-60 0.7

Grade Expectations: All grades are determined on an absolute score as above (with no curve) In