University Studies
Cluster Course Addition
Adding a previously unapproved course to a cluster
(When addressing questions, please attach a separate sheet)

PROPOSING FACULTY (Name, signature, and department)
Prof. Teresa Bulman Geography

1. THE COURSE,
   A. COURSE TITLE, NUMBER, AND CATALOG DESCRIPTION
      Geography 314 Severe Weather
      Examination of severe and hazardous weather processes such as hurricanes, tornadoes, and thunderstorms. Evaluation of the human-environment interaction of severe weather and the potential consequences of global climate change on the intensity and location of severe weather phenomena. Recommended prerequisite: Geog 210.
   
   B. DEVELOPMENT
      It is an existing course (approved last year and now listed in the catalogue.)
   
   C. AVAILABILITY
      The course will be offered annually.
   
   D. PREREQUISITES
      None (apart from Sophomore Inquiry). Geog 210 (Physical Geography) is a recommended prerequisite.

2. COURSE OUTLINE.
   The course outline is attached.
   
   The instructor committed to teaching the course is Prof. Teresa Bulman (Geography Faculty)

   The preliminary reading list is:
   Additional readings from:

3. GENERAL EDUCATION GOALS.
   A. COURSE CONTENT & SUITABILITY FOR CLUSTER
      This course aligns closely with the focus of the Environmental Sustainability cluster. The course employs the scientific method in the analysis of severe weather events and addresses the issue of resolution of environmental problems and socio-economic concerns by its second focus on the policy implications of severe weather events. The course helps students understand how the discipline of geography, with its spatial analysis and orientation to place and process, can unlock some of the components of environmental sustainability, such as ecosystem management to reduce impacts of severe
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Prof. Teresa Bulman ___________________________ Geography

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      thunderstorms. Evaluation of the human-environment interaction of severe weather and the potential
      consequences of global climate change on the intensity and location of severe weather phenomena.
      Recommended prerequisite: Geog 210.

   B. DEVELOPMENT
      It is an existing course (approved last year and now listed in the catalogue.)

   C. AVAILABILITY
      The course will be offered annually.

   D. PREREQUISITES
      None (apart from Sophomore Inquiry). Geog 210 (Physical Geography) is a recommended prerequisite.

2. COURSE OUTLINE.
   The course outline is attached.

   The instructor committed to teaching the course is Prof. Teresa Bulman (Geography Faculty)

   The preliminary reading list is:
   Additional readings from:

3. GENERAL EDUCATION GOALS.

   A. COURSE CONTENT & SUITABILITY FOR CLUSTER
      This course aligns closely with the focus of the Science in the Liberal Arts cluster. The course
      employs the scientific method in the analysis of severe weather events and addresses the issue of
      resolution of environmental problems and socio-economic concerns by its second focus on the policy
      implications of severe weather events. The course helps students understand how the discipline of
      geography, with its spatial analysis and orientation to place and process, can unlock some of the
      components of environmental sustainability, such as ecosystem management to reduce impacts of severe
phenomena. It is a natural outgrowth of the Sophomore Inquiry course, and will deepen and enhance students' understanding of the environmental record, recent changes in climate, and human dimension of global climate change as revealed in severe weather events.

B. UNST GOALS
This course engages students in critical thinking through:

- In-class debates
- Group round-table discussions
- Research projects
- Oral, written and graphical presentations of research results

Students will engage in the use of various forms of communication through written paper projects, oral presentations, and poster presentations that will be required in the course. The students will also engage in group work projects.

Students will gain an awareness of the broader human experience and its environment by comparing the occurrence and consequences of severe weather events throughout the world, from the monsoons of India and West Africa, to the droughts of Australia and Southern Africa, to the hurricanes of coastal United States and Eastern Asia.

Student will gain an appreciation of the responsibilities of persons to themselves, each other, and their communities as we investigate: the efforts to prevent and to recover from the impacts of severe weather events; the administrative and policy implications of severe weather phenomena; and the means of addressing global climate change and other circumstances that affect severe weather phenomena. Needless to say, Hurricanes Katrina and Rita will provide extraordinary case studies for this course for years to come.

C. CLASSROOM ENVIRONMENT
In this course students will be exposed to different modes of inquiry, from application of the scientific method to public policy debates. Students will be learning in a middle-to-high tech classroom, using a variety of resources from scientific data bases to wall maps to Internet material to legal documents and court cases. Students will be expected to engage in classroom discussions and project work, and to use writing and graphical representations to present the results of their analysis and research.

PROPOSING FACULTY:  TERE S A B ULM A N

COURSE TITLE AND NUMBER:  GEOS 314 SEVERE WEATHER

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<table>
<thead>
<tr>
<th># of Hours</th>
<th>Climate/Weather Topic</th>
<th>Policy Topic</th>
<th>Science Topic</th>
<th>Climate Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Atmospheric circulation and stability</td>
<td>Global</td>
<td>Atmospherics properties and measurements</td>
<td>Meteorology</td>
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<tr>
<td>2</td>
<td>Weather Maps and Global Circulation</td>
<td>Global</td>
<td>Weather Maps and Global Circulation</td>
<td>Global Circulation</td>
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<tr>
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<td>Drought indices; Planning for drought</td>
<td>Drought indices; Planning for drought</td>
<td>Dust Storms</td>
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<tr>
<td>5</td>
<td>Monsoons</td>
<td>Monsoons</td>
<td>Monsoons</td>
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<tr>
<td>5</td>
<td>building codes</td>
<td>building codes</td>
<td>building codes</td>
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<tr>
<td>5</td>
<td>tornados</td>
<td>Tornado Alley (USA); mobile Doppler, super-cell</td>
<td>Tornado Alley (USA); mobile Doppler, super-cell</td>
<td>Tornadoes</td>
</tr>
<tr>
<td>5</td>
<td>Inland/Arctic interface</td>
<td>Inland/Arctic interface</td>
<td>Inland/Arctic interface</td>
<td>Inland/Arctic interface</td>
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<tr>
<td>5</td>
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<td>5</td>
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<td>severe storms</td>
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<tr>
<td>5</td>
<td>global circulations</td>
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<td>5</td>
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<tr>
<td>5</td>
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</tr>
<tr>
<td>6</td>
<td>changes in intensity and distribution of severe weather; global orientation; international law</td>
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</tr>
<tr>
<td>6</td>
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</tbody>
</table>

Notes: This table outlines various topics related to climate and weather, including changes in intensity and distribution of severe weather, seasonal storm systems, hydrologic capacity issues, and severe weather change. Each row represents a different aspect of these topics, and the table aims to provide a comprehensive overview of the impacts and strategies associated with these phenomena.
OBTAIN CHAIR AND CLUSTER COORDINATOR SIGNATURES
BEFORE SUBMITTING TO UNIVERSITY STUDIES OFFICE

DEPARTMENT CHAIR(S): Martha Work       DATE: 10.27.05

__________________________     DATE: ____________

CLUSTER COORDINATOR: George Godfrey       DATE: 10/31/05

*LOCAL CHANGE*

All changes to Clusters must be approved by PSU's Senate Curriculum Committee.

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BY OCTOBER 31, 2003

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COURSE APPROVED FOR CLUSTER INCLUSION

CHAIR, CLUSTER COORDINATORS: ________________________________       DATE: ____________

CHAIR, UNST COMMITTEE: ________________________________       DATE: ____________
OBTAIN CHAIR AND CLUSTER COORDINATOR SIGNATURES
BEFORE SUBMITTING TO UNIVERSITY STUDIES OFFICE

DEPARTMENT CHAIR(S): __________ DATE: 10.27.05

________________________________________ DATE:

CLUSTER COORDINATOR: __________ DATE: 11/10/05

LINDA GEORGE (CBE)

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