Syllabus

Class Webpage: http://www.atmos.washington.edu/2006Q2/211/

Meeting times and locations
Lectures: M-Th, 10:30-11:20, 075 JHN
Quiz section: Section A, Friday, 10:30-11:20, 008 AND
Section B, Friday, 11:30-12:20, 008 AND

Instructor: Dr. Tad Anderson
Office: Room 30, CHL (Chemistry Library Bldg)
Phone, email: 543-2044, tadand@atmos.washington.edu
Office Hours: Wed 11:30-1:30 or by appointment

TA: Rei Ueyama
Office: 329 ATG
Phone, email: 543-9144, rei@atmos.washington.edu
Office Hours: Mon 1-2pm, Tue 11:30-12:30, Fri 12:30-1:30

Goals of the course

ACQUIRE BASIC CONCEPTUAL UNDERSTANDING OF...

- the Earth's climate - how it works, how it has changed in the past
- the potential for climate change (a.k.a. "global warming")
- the potential for ozone depletion (a.k.a. "the ozone hole")
- the role of science in environmental decision-making

DEVELOP SKILLS...

- critical thinking on environmental/scientific issues
- concise, logical writing
- applications of basic math and chemistry
- quantitative predictions and uncertainty analysis

Teaching philosophy
My goal is not just to convey a body of information (though that is a large part of what will happen) but to help each student acquire new skills and perspectives. Learning involves expansion and change. No one teaching style is perfect for everyone, so my class will feature a combination of methods including active, participatory learning.

Two themes will run through the course:

1. the Earth's climate as a "coupled system"
2. the provisional nature of scientific knowledge
Prerequisites

None. Open to all undergraduates. A working knowledge of high-school algebra and physical sciences will be useful; however, the basic tools used by scientists will be reviewed and practiced as they arise during the course.

Academic Credit

This is an NW course (provides 5 credits toward the Natural World requirement) and you have the option to make it a W course (5 credits toward the Writing requirement).

Textbook and other resources

The text for the course is The Earth System by Lee R. Kump et al., Prentice Hall, 2nd Edition, 2003, 419 pages. Additional required reading material will include handouts on selected topics and six research articles. The articles will be available as pdf files on the class website. In addition, about 20 research articles will be available for use in the report projects.

Course requirements and grading

Attendance on Mon-Thurs is essential and required. A large fraction of the grade (20-25%) comes from in-class activities. Friday review/tutorial/lab sessions are not required, but will probably be useful to most students. Homework will be assigned about 6 times during the term. Late homework will be accepted for half credit. There will be one midterm and one final exam. (Makeup exams will only be given in extreme cases and with advance notification to the instructor.) The Report Projects (for those getting Writing Credit) will require two short research reports on topics assigned by the instructor. There will be extra credit opportunities on most homeworks. In addition, you can get extra credit by attending suggested lectures on climate-related topics and writing up brief reports. Grades will be determined as follows:

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<thead>
<tr>
<th></th>
<th>W-credit</th>
<th>no-W-credit</th>
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<tbody>
<tr>
<td>Report projects</td>
<td>20%</td>
<td>n/a</td>
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<tr>
<td>In-class activities</td>
<td>20%</td>
<td>25%</td>
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<tr>
<td>Homework</td>
<td>20%</td>
<td>25%</td>
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<tr>
<td>Mid-term</td>
<td>15%</td>
<td>20%</td>
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<tr>
<td>Final</td>
<td>25%</td>
<td>30%</td>
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<tr>
<td>Extra Credit</td>
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Midterm: Friday, April 28 (normal quiz section time and room)
Final: Monday, June 5, 8:30-10:20, 075 JHN

Reports

- Written reports are NOT required unless you are taking the course for W-credit (5 credits toward the Writing requirement).
- For W-credit, turn in two short reports (at least 5 pages of text)
- First report due **Friday, April 28** (date of the Midterm)
- Second report due **Monday, June 5** (date of the Final)
- Reports will be based on articles assigned by the instructor that closely follow the course subject matter. Students will have a selection of 20 or so topics from which to chose.

- For detailed requirements, see Reports.