Atmospheric Sciences 211 Climate and Climate Change Winter 2011

http://www.atmos.washington.edu/academics/classes/2011Q1/211/index.html

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Office Hours: **Warren:** Monday, Wednesday 12:30-1:30pm
Goldenson: Tuesday, Thursday 10-11am

Objectives

The primary objective is to develop student understanding of how the climate system works, how climate has changed in the past, and how it is now being changed by human activity. The course also emphasizes skills needed to analyze and critically evaluate public discussions of climate issues.

This is a course for students of all backgrounds. A working knowledge of high school algebra and high school physical sciences is assumed. This is a Natural World (**NW)** course.

Course structure

Lectures will be held in the Physics-Astronomy Auditorium building, PAA A118, Monday-Thursday at 11:30 am. The Friday class, led by Goldenson, will be used for quizzes, questions about the lectures, and discussions about homework problems and exam questions. There may be some guest lectures. We will also watch some slideshows illustrating climatic principles.

There will be homework assignments and two exams. Exams will require short answers and short essays. If you have a good reason why you cannot take an examination on the date specified, please inform the instructor well in advance of the date. There will be no makeup exams except in case of serious illness or death in the family. You must be excused in advance, by phone or email if necessary.

Assessment	Percent of grade
Homework and quizzes	35
Midterm exam (Monday Feb 7)	30
Final exam (Wednesday Mar 16)	35

Textbook

Lee Kump, James Kasting, Robert Crane: *The Earth System,* ***Third Edition*****.**
Prentice-Hall, 2010.
The textbook will be supplemented with handouts.

Outline:

Week	Dates	Topic	Reading (chapters)
Week 1	Jan 3-7	Introduction to climate and systems	1,2
Week 2	Jan 10-14	Energy, temperature, solar radiation	3
Week 3	Jan 17-21	Greenhouse effect, climate feedbacks, clouds	3
Week 4	Jan 24-28	Solar energy distribution, atmospheric motions	4
Week 5	Jan 31-Feb 4	Regional climates, oceans, ice, seasons	5, 6
Week 6	Feb 7-11	The carbon cycle: natural and perturbed	8, 15
Week 7	Feb 14-18	Evolution of the atmosphere	10,11
Week 8	Feb 21-25	Ice ages, Snowball Earth	12, 14
Week 9	Feb 28-Mar 4	Global warming causes	15
Week 10	March 7-11	Global warming impacts; ozone	16, 17
Week 11	March 16	Final exam	

The day-by-day schedule will be posted on the class website after the first week of class:
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