

**Geology 390**  
**Global Climate Change**  
**Spring 2006**  
**Tue/Thu 10:35-11:50**  
**ELSB 12**

**Instructor:** Susan Harder, Environmental Science Program

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**Web site:** [www.vancouver.wsu.edu/fac/harders/geo390/geo390\\_2006.html](http://www.vancouver.wsu.edu/fac/harders/geo390/geo390_2006.html)

**Office hours:** Wed 11-12 (ELSB 109), Thu 12-1:30 (ELSB 230), or by appointment

**Goals of course**

To develop an understanding the history, origin, structure, and function of the earth system and the climate system, and to understand the impact of human activity on these systems.

**Necessary Background**

This course is designed for non-science majors. The prerequisite is one college level science course. We will use some simple mathematical and physical concepts that would typically be part of such a course.

**Text**

- *The Earth System* by Kump, Kasting, and Crane, Prentice Hall, 2<sup>nd</sup> edition, 2004, 351 PP. ISBN 0-13-142059-3.
- Supplementary reading as assigned by instructor.

**Grading**

There will be 3 in-class exams consisting of multiple choice, short answer, and essay questions. Material for the exams may come from the text, other assigned reading, and lectures. There will also be a group project involving research, a writing assignment, and in class presentations and discussion. There will also be some in-class and homework assignments.

The final grade will be weighted as follows:

Exam I	20%
Exam II	20%
Exam III	20%
Group Project	
• Group presentation	10%
• Writing assignment	10%
• Individual participation	10%
In-class & Homework Assignments	10%

**Accommodations of Disabilities**

Reasonable accommodations are available for students who have documentation of a disability on file in the Student Services Office (SS220). Please notify the instructor of an approved accommodation during the first week of class. Accommodations are approved through the Student Services Office.

**Geology 390, Global Climate Change and Earth History  
Spring 2006**

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**Schedule (subject to change)**

	DATE	TOPIC	READING
1	1/10/05	Intro and logistics	Movie: The Day After Tomorrow
2	1/12/05	Intro and logistics	Movie: The Day After Tomorrow
3	1/17/05	Overview of Global Change	Chapter 1, Global Change
4	1/19/05	Earth Systems	Chapter 2, Daisyworld, An Intro to Systems
5	1/24/05	Energy Balance	Chapter 3, Global Energy Balance: The Greenhouse Effect
6	1/26/05	Energy Balance	Chapter 3, Global Energy Balance: The Greenhouse Effect
7	1/31/05	The Atmosphere	Chapter 4, The Atmospheric Circulation System
8	2/2/05	The Atmosphere	Chapter 4, The Atmospheric Circulation System
9	2/7/05	The Ocean	Chapter 5, The Circulation of the Oceans
	<b>2/9/05</b>		<b>EXAM</b>
10	2/14/05	The Ocean	Chapter 5, The Circulation of the Oceans
11	2/16/05	Climate Modeling	Chapter 6, Modeling the Atmosphere-Ocean System
12	2/21/05	The Solid Earth	Chapter 7, Circulation of the Solid Earth: Plate Tectonics
13	2/23/05	The Solid Earth	Chapter 7, Circulation of the Solid Earth: Plate Tectonics
14	2/28/05	Chemical Cycles	Chapter 8, Recycling of the Elements: The Carbon Cycle
15	3/2/05	Chemical Cycles	Chapter 8, Recycling of the Elements: The Carbon Cycle
16	3/7/05	Biota/Ecosystems	Chapters 9, 13, 18 Biodiversity
	<b>3/9/05</b>		<b>EXAM</b>
	<b>3/13/05</b>		<b>Spring Break</b>
	<b>3/17/05</b>		<b>Spring Break</b>
17	3/21/05	Pleistocene Climate	Chapter 14, Pleistocene Glaciations
18	3/23/05	Holocene Climate	Chapter 15, Short-term Climate Variability
19	3/28/05	International Climate Policy	Kyoto Protocol
20	3/30/05	Current and Future Climate	IPCC Report
21	4/4/05	Climate Change Impacts	Arctic Climate Impact Assessment
22	4/6/05	Climate Change Impacts	JISAO Report
23	4/11/05	US Climate Policy	reading to be announced
24	4/11/05	The Ozone Hole	Chapter 17, Ozone Depletion
	<b>4/18/05</b>		<b>EXAM</b>
25	4/20/05	Mini Kyoto Conference	Presentations
26	4/25/05	Mini Kyoto Conference	Presentations
27	4/27/05	Mini Kyoto Conference	Discussion/Papers due