

Atmospheric Sciences 211: Climate and Climate Change

Instructor M. Baker
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January 13, 2000

- Office Hours: Prof Baker: By appointment
S. Medina: M, W 11:30-1:00
- Lectures: MTWTH; Quiz Section F
- Text: The Earth System, by Kump, Kasting and Crane. (KKC)
- Student Responsibilities:
 1. Reading Assignments:

Students will be responsible for readings as assigned from the text, supplemented by additional material from lecture notes, the web, and other sources.
 2. Homework Sets:

There will be several written homework sets throughout the quarter.
 3. Examinations: There will be two in-class midterms, several five-minute in-class quizzes and one final examination.
 4. Term Project:

There will be one three-part term project under the direction of S. Medina and Prof. Baker.

 - (a) Part I: (S. Medina)

Each student will collect daily temperature and precipitation measurements for the period January-March from selected sites around the globe. A preliminary report on these findings is due from each student the third Friday of the quarter.

(b) Part II (Prof. Baker and S. Medina): On the fifth Friday of the quarter each student will turn in a proposal for a short paper investigating some specific aspect of climate change, either past or present. The format for this proposal is as follows:

- i. Statement of question
- ii. Preliminary list of resource materials to be used
- iii. Preliminary hypothesis

Prof. Baker and Ms. Medina will assist students in refining their questions and locating appropriate resource materials.

(c) Part III: (S. Medina) Students will analyze archived temperature records and temperature predictions for the period January-March from selected sites around the globe.

In addition, students will carry out the investigations of the research questions outlined in Part II. Students will present brief summaries of their findings and each student will turn in a 5-7 page report on the project as a whole the last Monday of the quarter.

- Grading Policy:

Grades will be based on:

1. Homework and Quizzes: 30%
2. Midterms: 30%
3. Project Reports: 20%
4. Final Examination: 20%

Lecture Schedule			
Section	Week	Topic	Reading (KKC)
I	1-2	The Climate System	Chapters 1 and 2
II	2-3	Global Energy Balance: The Greenhouse Effect First Project Report Due	Chapter 3
III	3-4	Atmospheric and Oceanic Circulations Midterm 1	Chapters 4 and 5
IV	5-6	Biogeochemical Cycles: Origin of the Atmosphere Paper Proposal Due	Chapters 7 and 9
V	6-7	The Climate Record: The Ice Ages Midterm 2	Chapter 11
VI	8-9	The Human Factor: Global Warming, Ozone Depletion	Chapters 12, 13 and 14
	10	Review Final Project Report Due	