

Geo/Bio/Anthro/Cities 397: Senior Seminar in Environmental Studies

Instructor: Dr. Catherine Riihimaki, Geology

Office: Park Science 295 (ext. 7971)

Office hours: TR 9:00-10:30 am and by appointment

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Meetings: 2-3 hours per week, TBA

Theme: “The Past, Present, and Future of Climate Change.” One of the most difficult but important environmental issues facing world cultures today is how humans should interact with Earth’s climate system. One of the most interesting research topics involves teasing apart the role climate has played in producing the world that we have today. We will explore these themes by reading articles on Earth’s climate from the fields of geology, biology, chemistry, economics, anthropology, and government policy.

The first two weeks, we will discuss the controls on Earth’s climate and how the climate has changed during Earth’s history. From there, we will open up the readings to group suggestions. Possible topics include the evolution of humans, urban heat islands, water policy in arid regions, human settlements during the Medieval Warm Period, the economics of global warming, potential future climates, etc. Readings from books, scholarly journals, magazines, newspapers, and websites are all potential sources.

Grading:

Class participation and attendance	10%
Led-discussion	10%
Critical reviews	20%
Short paper	20%
Final paper	40%

Late assignments have a half-life of one week (i.e., if turned in one week late, your maximum grade is 50%). Remember that turning in assignments late is the worst way to lose points!! I reserve the right to consider trends, class participation, and attendance for anyone on the cusp of two grades. Cheating is obviously not allowed, as per the Honor Code. If in doubt about what constitutes cheating or plagiarism, please ask.

It is to your advantage to attend *all* class meetings. Clear any absences in advance, if possible. Extensions will be granted only under extraordinary circumstances. If you have a sports-related conflict, please have your coach email me in advance.

Important Dates

<u>Date</u>	<u>Subject</u>
Week 1: 9/1	First meeting: Logistics; Climate basics
Week 2 (9/6)	Reconstructing past climate change
Week 3 (9/13)	
Week 4 (9/20)	
Week 5 (9/27)	
Week 6 (10/4)	
<i>10/8-10/17</i>	<i>FALL BREAK</i>
Week 7 (10/18)	
Week 8 (10/25)	3-4 page paper on climate change policy due; The politics and policy of climate change
Week 9 (11/1)	
<i>11/2</i>	<i>VOTE!!</i>
Week 10 (11/8)	Catherine is at a meeting in Denver, CO 11/7-11/10 “Day After Tomorrow” screening??
Week 11 (11/15)	
Week 12 (11/22)	
Week 13 (11/29)	
Week 14 (12/6)	
	Catherine is at a meeting in San Francisco, CA 12/13-12/17
<i>12/20</i>	<i>FINAL PAPER DUE</i>

Critical Review Guidelines:

Each review should be 1 page long, and must have the follow components:

1. A *correct* bibliographic citation at the top of the page. It's good practice to get in the habit of citing articles now, since you will need to do this for your two research papers. Annoyingly, there is no standard format for citations; each journal has it's own style. Pick a style that you like and stick with it. For each of your papers, you will need to have a consistent style throughout. Look at the list of citations in at the back of the articles we read for examples of proper formats, or refer to this web site for a good format: <http://www.bath.ac.uk/library/guides/references.html>. Here are three examples, in the style of the journal *Geology*:

Article:

Raymo, M.E., 1994, The Initiation of Northern-Hemisphere Glaciation: Annual Review of Earth and Planetary Sciences, v. 22, p. 353-383.

Book:

Burbank, D.W., and Anderson, R.S., 2001, Tectonic geomorphology: Malden, MA, Blackwell Science, Inc., 274 p.

Section of a book:

Shackleton, N.J., and Pisias, N.G., 1985, Atmospheric carbon dioxide, orbital forcing, and climate, *in* Sundquist, E.T., and Broecker, W.S., eds., The Carbon cycle and atmospheric CO₂: natural variations Archean to present, Volume Geophysical Monograph 32, p. 412-417.

2. A 1/2-page description of the article and its key points of interest. Critically examine what question was addressed, why is it an important question (or, at least, why did the authors feel it was important), what methodology did they use, and what were their main conclusions.
3. A short personal evaluation paragraph where you explain how the paper relates to your interest, comment on the significance of the results, and any personal reaction you have to it. For example, do the results speak to a larger issue that we have discussed? Do you agree with their conclusions, and why or why not? Would you like to see a follow-up study?

On a separate page, write down three discussion questions. These can relate to parts of the paper that you didn't understand, broader implications of the work, parts that you disagree with, etc.