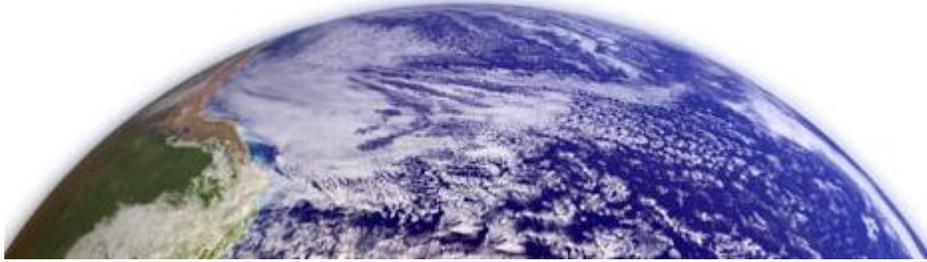


Climate Change: *How Bad? How Soon?*



Fall 2008 First Year Seminar: T, Th 1:15–2:30 pm Embury 206

Prof. Ryan Zahn Hinrichs
Office: Hall of Science S-210
Office Hours: T, Th 2:30-3:30; *open door policy*

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rhinrich@drew.edu

Course Description:

Will devastating hurricanes like Katrina become more frequent? Will droughts disrupt our food supply? Will Manhattan flood under rising seas? It is now clear that global climate change will affect the lives of everyone on this planet, even if some details remain uncertain. In this seminar, we will analyze data from over 650,000 years of Earth's history to construct our own understanding of climate change science. Distinguishing between natural processes and human-induced climate change will be central to this discussion and will provide a framework for understanding the models of future climate change. An international debate on policy responses to climate change is underway, and we will conclude this course by evaluating the various policy options compared to the risks of inaction.

Required Course Materials:

- Henson, Robert. *The Rough Guide to Climate Change, 2nd Ed.*, 2008.
- Kolbert, Elizabeth. *Field Notes from a Catastrophe: Man, Nature and Climate Change*, 2006.
- Ruddiman, William. *Plow, Plagues, and Petroleum: How Humans Took Control of Climate*, 2007.
- Anson, Schwegler, and Muth. *The Longman Writer's Companion, 4th Ed.*, 2007.

Course Objectives:

1. Learn to think scientifically and critically about issues surrounding global climate change.
 - explain fundamental climate change processes.
 - build the skills and confidence to critically analyze climate change data.
2. Grow to become an active and effective participant in your liberal arts education.
 - explore intellectual and cultural ideas both inside and beyond the classroom.
 - construct and support logical arguments in written assignments and oral presentations.
 - engage in lively discussions and respectful debates with your peers and instructors.

Performance Evaluation:

Grades for this course will be determined by the following criteria:

Participation (and attendance).....	20%
Papers (2 at 15%; 2 at 10%).....	50%
Presentation (and peer review)....	15%
Response writings.....	15%

Participation: All seminars will center on discussions of that day's readings. All reading assignments listed on the syllabus must be completed prior to that day's seminar, and you should be prepared to discuss each reading. I recommend that you come to each class with written discussion questions and notes, in addition to the reading assignment itself. Failure to contribute to class discussions on a regular basis will result in a reduction of your grade.

Attendance: *Class attendance is mandatory.* You are also required to attend the Thomas Friedman lecture on Monday, Sept. 15 at 8:00 PM (please plan your schedule accordingly). Each unexcused absence will reduce your final grade by 1%.

Papers and response writings: *All written assignments are due in hard copy at the beginning of class on the date due.* Late assignments will be deducted 10% per day, and no assignments will be accepted after the assignment is returned.

All written assignments must be typed using standard formatting (double spacing, 1 inch margins, 10 or 12 point font, page numbering). All referencing must use the APA format (please refer to *The Longman Writer's Companion*).

“Plagiarism is the act of appropriating or imitating the language, ideas, or thoughts of another and presenting them as one's own or without proper acknowledgment. This includes submitting as one's own a thesis, a paper, or part of a paper written by another person, whether that material was stolen, purchased, or shared freely. It also includes submitting a paper containing insufficient citation or misuse of source material” (Drew University Academic Integrity Policy, 2008). *All plagiarism violations will be submitted to the Committee on Academic Integrity.*

Academic Accommodations:

Should you require academic accommodations, you must file a request with the Office of Educational Affairs (BC 114, extension 3327). It is your responsibility to self-identify with the Office of Educational Affairs and to provide me with the appropriate documentation from that office at least one week prior to any request for specific course accommodations. There are no retroactive accommodations.

Extra Assistance:

If you have any questions, don't hesitate to contact me. Send an email (rhinrich@drew.edu), phone (x3853), or drop by my office. I have an open door policy – if my door is open, let's talk.

The Drew University Writing Center, located in the Chapel Room of Brothers College, is an excellent resource for all writing assignments. Visit depts.drew.edu/writecen or call x3617 for info.

Week 1

Tuesday, Sept. 2

Topic: Uncertainty!?!

Assignment: Read syllabus prior to class. Write down any questions.

Thursday, Sept. 4

Topic: Should we worry about climate change?

Reading: Kolbert, Chapters 1-3 (pp. 1-66)

Assignment: Write three discussion questions based on reading assignment. Questions must be submitted via email (rhinrich@drew.edu) by 9:00 AM.

Week 2

Monday, Sept. 8: Last day to add semester long class without instructor's signature.

Tuesday, Sept. 9

Topic: "What happened in the Holocene?"

Reading: Kolbert, Chapters 4-5 (pp. 67-199)

Assignment: Essay: What is the value of a liberal arts education to you? What will you get out of Drew and how do you plan to get it? (length: 500-750 words)

Thursday, Sept. 11

Topic: Primary Literature vs. Popular Literature

Library introduction by Catherine Ryan (meet at Reference desk in Library; bring charge laptop computers)

Assignment: Paper #1 will compare a topic as presented by Kolbert to the primary literature on that subject. Choose two possible topics from your readings of Kolbert. For each topic, write one paragraph explaining your choice (150-200 words; use the Word Count... function under the Tools menu in Microsoft Word). Also prepare three search phrases for each topic to use with the library databases. **Hard copies must be brought to class.**

Week 3

Monday, Sept. 15: Last day to drop without "W" or add with instructor's signature.

Thomas Friedman Lecture (attendance mandatory).

Monday, Sept. 15 at 8:00 PM in the Simon Forum and Athletic Center.

Tuesday, Sept. 16

Topic: Discussion of Thomas Friedman's lecture.

Reading: "The Power of Green" by Thomas Friedman, NYTimes Magazine, 2007.

Assignment: Write a 1-2 page (double spaced, 500-750 words) response to Friedman's lecture. Identify the biggest strength and weakness of his arguments, and use direct quotes to support your analysis. Bring hard copy to class.

Thursday, Sept. 18

Topic: Can you trust what you read? Discussion of Paper #1 topics.

Assignment: Write down the central focus (or thesis question) of your paper. Include an annotated bibliography using the APA format, which must contain at least three sources (no internet or news paper sources allowed!). For each source, write 2-3 sentences explaining its usefulness. Bring hard copy to class. Be prepared to present and discuss your topic and sources in class.

Week 4

Tuesday, Sept. 23

Topic: What is climate change? An introduction/review of the basics.

Reading: Henson Part 1 (pp. 1-42)

Thursday, Sept. 25

Topic: Can you trust what you read?

Assignment: **Paper #1 due.** (3-4 pages double spaced; 1000-1200 words). All references must be properly cited in the text. Please review the plagiarism statement in the Academic Integrity guide. Bring two hard copies to class.

Week 5

Monday, Sept. 29 – Friday, Oct. 3:

Individual meeting with advisor.

Please use the sign-up sheet on my office door to schedule a meeting.

Tuesday, Sept. 30

Topic: How old is Earth?

Reading: Allegre, C.J.; Schneider, S.H. "The Evolution of Earth." *Scientific American* (Sp. Ed: "Our Ever Changing Earth.") Vol.15, No.2: 4-13, 2005.

Thursday, Oct. 2

Topic: Experiment: How fast does ice melt?

Assignment: **Revised Paper #1 due.** Bring hard copy to class.

Friday, Oct. 3: Last day to drop first half-semester classes with a “W.”

Friday – Sunday, Oct. 3-5: FAMILY WEEKEND

Week 6

Tuesday, Oct. 7

Topic: Natural fluctuations.

Reading: Ruddiman, Parts 1&2 (pp. 1-60)

Assignment: Write three discussion questions based on reading assignment. Questions must be submitted via email (rhinrich@drew.edu) by 9:00 AM.

Presentation topics will be selected in class (first come, first serve). Topics should consider the impacts of climate change (see Henson, Part 2 for ideas). 20 minute presentations, using PowerPoint, will be given during Weeks 8 and 9. Presentations will be given in groups of two.

Thursday, Oct. 9

NO CLASS – READING DAY.

Note: you should be working on Paper #2, which is due on Thursday, Oct 16. Paper #2 topic: using data to support a quantitative argument in writing. You may select any topic (any graph or set of data found in the Required Materials for this course; other data sets may be used if you gain prior approval from the instructor). 1000-1200 words, two reference minimum.

Friday, Oct. 10: No classes – Reading day.

Week 7

Tuesday, Oct. 14 (*Thursday classes meet*)

Topic: Drew University Carbon Audit

Sign-up for Presentations.

Assignment: Assignment: **Revised paper #1 due.** (3-4 pages double spaced; 1000-1200 words). All references must be properly cited in the text. Please review the plagiarism statement in the Academic Integrity guide.

Wednesday, Oct. 15: Friday classes meet.

Thursday, Oct. 16

Topic: Experiment: How fast does ice melt?

Assignment: Initial Analysis for Carbon Audit based on assigned article. (1 page)

Week 8

Tuesday, Oct. 21

Class canceled.

Thursday, Oct. 23

Topic: Presentations: Impacts of Climate Change

Assignment: **Paper #2 due.** (3 pages double spaced; 700-1000 words). All references must be properly cited in the text. Please review the plagiarism statement in the Academic Integrity guide. Bring hard copy to class.

Week 9

Tuesday, Oct. 28

Topic: Presentations: Impacts of Climate Change

Reading: Henson, Part 2 (pp. 45-105)

Thursday, Oct. 30

Topic: Presentations: Impacts of Climate Change

Reading: Henson, Part 2 (pp. 106-146)

Week 10

Monday, Nov. 3 – Thursday, Nov. 13: Registration for Spring 2009 semester.

*All advisees **must** meet with advisor individually.*

Please use the sign-up sheet on my office door to schedule a meeting.

Tuesday, Nov. 4

Topic: Presentations: Impacts of Climate Change

Reading: Henson, Part 2 (pp. 147-168)

Assignment: **Paper #3 due.** (3 pages double spaced; 700-1000 words). Paper #3 topic: Politics and climate change. Analyze/critique the position of any politician on issues involving climate change. You may use their websites and new paper sources for reference material. Bring hard copy to class.

**** ELECTION DAY: GO VOTE ****

Thursday, Nov. 6

Topic: What don't we know? The science of climate change.

Reading: Henson, Part 3 (pp. 171-244)

Friday, Nov. 7: Last day to drop semester long course with a "W." Courses discontinued after this date earn a grade of "U."

Week 11

Tuesday, Nov. 11

Topic: Business as usual.

Reading: Kolbert, Chapters 6-10 (120-187)

Assignment: Write a 1-2 page (double spaced, 500-750 words) response: Should developing countries, such as China and India, be required to limit greenhouse gas emissions under any new international treaties on climate change? Or is the structure of the Kyoto Protocol towards these countries appropriate? Bring hard copy to class.

Thursday, Nov. 13

Topic: Stabilization wedges.

Reading: Pacala, S.; Socolow, R. "Stabilization wedges: solving the climate problem for the next 50 years with current technologies." *Science*, 305: 968-972.

Assignment: Typed, 1-2 pages: Your selection of wedges with a brief response (1-2 sentences) explaining your opinion (feasible or unfeasible; worthwhile or problematic) for each wedge.

Week 12

Tuesday, Nov. 18

Topic: Debates on Nuclear Power.

Reading: Henson, Part 4 (pp. 247-332)

Thursday, Nov. 20

Topic: Movie: An Inconvenient Truth

Assignment: **Revised Paper #2 due.** (3 pages double spaced; 700-1000 words). All references must be properly cited in the text. Please review the plagiarism statement in the Academic Integrity guide. Bring hard copy to class.

Week 13

Tuesday, Nov. 25 *Last day to drop second half-semester classes with “W.”*

Topic: What is your carbon footprint?

Reading: Henson, Part 5 (pp. 335-356)

Wednesday, Nov. 26: Thanksgiving recess begins, no classes, residence halls close 12:00 noon; halls re-open Sunday, Nov. 30 at 12:00 noon.

Thursday, Nov. 27

NO CLASS – THANKSGIVING BREAK

Week 14

Tuesday, Dec. 2 and Thursday, Dec. 4

Topics: To be determined based on class interest.

Weeks 15 & 16

Monday, Dec. 8: LAST DAY OF CLASSES! (Wednesday classes meet)

Tuesday – Wednesday, Dec. 9-10: Reading Days

Thursday, Dec. 11: FINAL EXAMS BEGIN.