PS367: Climate Change: Science and Politics of a Global Crisis
Prof. Ronald Mitchell
Department of Political Science and Program in Environmental Studies

Time: Tues/Thurs 8:30-9:50  Office Hours: PLC-921, Tues/Thurs 11:30-1:00, by signup and appt.
Course Website on Blackboard: rmitchel@uoregon.edu; Phone: 346-4880

COURSE DESCRIPTION
Climate change is the largest environmental problem facing the Earth. We are increasingly aware of the causes, impacts, and likelihood of climate change. Yet, recent international meetings on climate change suggest that the nations (and people) of the world are unwilling to take the actions that most scientists say are needed to avoid the most severe impacts of climate change. In short, the demand for action on climate change implied by most scientific evidence has not yet been matched by the supply of action from political leaders and policy-makers. This course will help you understand both the science of climate change and the factors that influence whether we make progress on this global crisis and the international, national, and local policies that can help. The course looks at four major elements of climate change, as follows:

- **Understanding the science**: What do we know and what don’t we know about climate change? To what extent is it human-caused and how do we know? How does one assess the arguments of those who contend that human-caused climate change is occurring compared to those who contend the opposite?
- **Setting the agenda**: What has gotten climate change on the international policy agenda? What role has scientific evidence played? What role have nongovernmental organizations and activists played? What role have celebrities like Al Gore played? What factors have kept climate change off the policy agenda?
- **International responses to climate change -- negotiating an agreement**: Why have countries been willing to take action on climate change at some times and not others? Why are some states “leaders” on climate change and others “laggards”? What “factors and actors” help negotiations succeed or fail?
- **Non-international responses to climate change -- what actors other than countries are doing**: What actions are countries taking on their own, without international cooperation? What are multinational corporations, local communities, and individuals doing to address the problem?

REQUIRED COURSE MATERIALS
There are many required readings but no required books for the course. Readings will be on the course Blackboard site. There are many readings for each class session but most readings are brief. The class depends on active student participation so, please, Do the readings before each class.

EXPECTED LEARNING OUTCOMES
- Understand key insights from a range of natural science and social science disciplines regarding a) the physical and chemical processes by which humans are believed to be influencing the global climate, b) the impacts that climate change is predicted to have for humans and the natural system, and c) the social forces that are fostering or inhibiting action to address climate change.
- Recognize the range of strategies to address climate change being used by individuals, nongovernmental actors, and governmental actors at the local, state, national, and international levels as well as the factors that contribute to or prevent their success.
- Demonstrate critical thinking and communication skills, including the use of counterfactuals, by writing a major research paper that requires using empirical evidence to assess theoretical claims about some aspect of the social science of climate change.

ESTIMATED STUDENT WORKLOAD
Student workload involves 120 hours for this 4-credit course. Class attendance requires 3 hours per week for 10 weeks (30 hours). This course also requires approximately 3 hours per week of reading (30 hours). The plagiarism assignment will require 1 hour. Assignment 1 on Graphing local climate trends will require 1 hour. Assignment 2 on “What drives CO2 emissions?” will require 2 hours. Assignment 3 on “Different things we believe” will require 4 hours. The response papers will require 8 hours each (16 hours). The 2 drafts of the research paper, writing the research paper, and preparing for the Symposium presentation will require approximately 36 hours during the course of the term, much of which may fall during the last half of the term.
generally for e about your own experience to help you develop an essay which is about how faith/opinion/knowledge differ more differences to what kinds of data and evidence? Are your beliefs in each area susceptible to arguments by beliefs in each area? Are your beliefs in each area susceptible to change in response to data and evidence and, if so, knowledge to yourself and then think about those answers to write an essay about the ways in which I prefer that y how our beliefs about religion, about polit This following three sentences (choose which A information in these graphs. and technology I will provide you with g Assignment 2 Short analysis paper: “What dri REPEAT once you have identified the most interesting graph, do the following for just ONE: I will assemble them into a Powerpoint for class. Grading criteria: turn in the assignment on time and according to the instructions. Assignment 2 Short analysis paper: “What drives CO2 emissions?” (10%) I will provide you with graphs depicting the relationship of countries’ CO2 emissions to their population, affluence, and technology. For this assignment, you are to answer specific questions (to be provided) based on interpreting the information in these graphs. Assignment 3 Essay (submit online): “Different things we believe” (10%) Write a 1,000 word essay explaining what differences, if any, you see in the use of the word “believe” in the following three sentences (choose whichever of the underlined pairs suits you). I believe that there is/is not a God. I believe that American government will work better if Republicans/Democrats win the next election. I believe that human-caused climate change is/is not already occurring. This assignment involves careful thought but NOT a response to the readings. The goal is to get you thinking about how our beliefs about religion, about politics, and about science differ. Bring in good ideas on these subjects! I prefer that your essay NOT tell me which of the underlined pairs you believe! Instead, write out your answers to yourself and then think about those answers to write an essay about the ways in which faith, opinion, and knowledge differ. How strong are your beliefs in each of these areas? On what basis have you come to hold your beliefs in each area? Are your beliefs in each area susceptible to change in response to data and evidence and, if so, to what kinds of data and evidence? Are your beliefs in each area susceptible to arguments by others? What do differences among these types of beliefs mean for political discourse? The goal is to use some time spent thinking about your own experience to help you develop an essay which is about how faith/opinion/knowledge differ more generally for everybody.

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<th>Class element</th>
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<td>Class attendance and participation</td>
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<td>Reading</td>
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<td>Assignment: Plagiarism assignment (required but ungraded)</td>
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<td>Assignment 1: Graph of climate trends</td>
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<td>Response paper 1: due at beginning of class for those readings</td>
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<td>Response paper 2: due at beginning of class for those readings</td>
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<td>Final research paper (draft 1: 5%; draft 2: 10%; final paper: 25%)</td>
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Grading criteria: quality of structure of paper, clarity of argument, and depth of thought as evident in writing.

Two response papers (10% for first and 15% for second) – 1200 word limit
Each student will write 1 response paper covering ALL readings for one class session. Each student will be required to help lead discussion for that session. Response papers can be no more than 1200 words and should:

- Section 1: Identify at least 3 points of agreement or disagreement across at least 3 readings (using readings from previous classes if there are only 1 or 2 readings for the class session that you have been assigned). Show how all 3 articles you are summarizing comment on the overarching point. So, for example, show how 3 different articles weigh in on the issue of whether “mitigation is an inadequate solution to climate change,” even though one says we should focus on adaptation, another says we should focus on geo-engineering, and the third says that we can mitigate adequately if we just impose an adequate carbon tax.
- Section 2: Re-read the articles you have summarized and identify two strategies that the articles use that helped to convince you of their arguments. Try to identify strategies of argumentation that authors use either because they use them well or because they fail to use them. So, for example, you might say that “providing good graphics is convincing” and then point out how the two articles you found convincing used good graphics and the one that did not convince you had no graphics.

Grading criteria: quality of structure of paper, clarity of argument, demonstrated understanding of readings, depth of thought regarding the claims and how to use them to develop your own.

Final research paper (40% total: 25% for Final Paper plus 5% and 10% for drafts 1 and 2 – see below)
15-20 page research paper explaining, in depth, some political or social aspect of climate change approved by the professor. The paper requires rigorous analytic arguments that couple theoretical insights and logic with solid empirical evidence of policy changes and corresponding changes in the factors claimed to have caused those changes (or that they affected). I pay particular attention to helping you understand how to identify and understand relevant theoretical literatures; to collect and analyze relevant empirical evidence; to develop good counterfactual arguments; to evaluate rival hypotheses; and to evaluate the generalizability of the arguments they create.
- Doing research involving surveys, interviews, etc.? – you need “Human Subjects Clearance”: If you want to talk to people about climate change for your research, which I encourage, federal law requires you get approval BEFORE you begin. Such research is great but requires planning. Look over the website at: http://humansubjects.uoregon.edu/ If you want to do this, talk to me no later than week 3 of the term.

Two drafts to help you build toward the final paper
Draft 1 (see below for due date) involves a 1st draft that includes a clear statement of the research question and identifies a bibliography of at least 10 relevant scholarly sources. Draft 2 (due in Week 8) requires, as a minimum, demonstrating your evidence that something has changed in the climate change arena, i.e., that there is something deserving explanation. You must also include some set of initial potential variables that explain the changes you have identified. You are encouraged, but not required, to make this a full draft of the paper that includes all the elements that will be in the final paper.
Grading criteria: quality of structure of paper, clarity of argument, good use of theoretical literature, good research uncovering literature not provided by professor, and good analysis of empirical material.

Symposium presentation (required but no credit)
The second to last day of the term, each student will present the findings of their final paper to an in-class “Symposium on the Science and Politics of Climate Change.” Presentations will last no more than 5 minutes, with the goal of making the insights from your paper accessible to other students and the public.

How Grades Will Be Determined
Assignment of final grades: Students will receive grades based on their grades for each assignment, the percentage weights given in the table above, and the following criteria:

- A+: if given at all, given to 1 or 2 students whose performance stood out as significantly stronger than all other students in the course
- A: all assignments completed in ways that demonstrate a particularly strong and nuanced understanding of almost all course concepts and the ability to clearly connect theories from the course to empirical evidence
- B: all assignments completed in ways that demonstrate solid understanding of most course concepts and the ability to adequately connect theories from the course to empirical evidence
- C: completed assignments demonstrate only a basic understanding of course concepts and/or one or more assignments missing
- D: missing many assignments and completed assignments demonstrate little understanding of material covered
- F: assignments completed account for less than 80% of total grade.

Expected distribution of grades: ~20% As, ~35% Bs, ~35% Cs, ~7% Ds, ~3% Fs.

**COURSE POLICIES**

**Policy on late assignments**
Late assignments will lose 2 points per day (at midnight): an assignment that arrives before midnight of the 1st day after it was due will lose 2 of 100 points, one that arrives midnight of the 2nd day after it was due will lose 4 of 100 points, etc. Please turn in all assignments, even if late, however.

NOTE: It is difficult to pass this course unless you turn in ALL assignments, since each is such a large portion of the final grade. Help me help you pass the course by turning in all assignments on time.

**Academic Integrity, Plagiarism, Fabrication, Cheating, and Misconduct:**
By enrolling in this course, you agree to abide by the University’s Student Conduct Code. You must read the three webpages linked on Blackboard for Assignment #1. Understanding these documents is a course REQUIREMENT that you MUST complete by the end of week 1. Everything in your assignments must be your own work. Neither ignorance of these policies nor the lack of an intention to cheat or plagiarize will be considered a legitimate defense. Raise questions you have with the professor before problems arise. I will flunk all students who plagiarize and will report them to University authorities. Unfortunately, I have done so two or three times in the past few years.

**Students with disabilities**
Both I as a professor and the University of Oregon are committed to creating inclusive learning environments. Please notify me if any aspects of my instruction methods or course design result in barriers to your participation. If you have a disability, I encourage you to contact Accessible Education Center in 164 Oregon Hall at 346-1155 or uoaec@uoregon.edu. If you have already been in contact with Accessible Education Center and have a notification letter, please provide me with a statement from Accessible Education Center during the first week of class so that we can make appropriate arrangements. University policy requires that students present a notification letter from AEC to receive testing accommodations (see http://aec.uoregon.edu/students/current.html).
COURSE SCHEDULE AND ASSIGNMENTS

Tues., Week 1: Introduction
No readings. Come to class prepared to answer the following questions:
- What DON’T you know about climate change?
- What DO you know about climate change?
- What do you want to learn in this course?

Thurs., Week 1: What is climate change?
Assignment “Plagiarism” due by end of week 1: Complete online readings regarding plagiarism!

- AAAS Climate Science Panel. 2013. What we know: the reality, risks, and response to climate change. Washington, DC: American Association for the Advancement of Science
- Intergovernmental Panel on Climate Change. 2014. Climate Change 2013: the physical science basis (WG1 Summary for Policymakers). Geneva: Intergovernmental Panel on Climate Change. The IPCC is “the leading international body for the assessment of climate change … established by the United Nations Environment Programme (UNEP) and the World Meteorological Organization (WMO).”

Tues., Week 2: What is climate change (continued)
Assignment 1 (see syllabus): Graph: “Local Climate Trends – Evidence of climate change yet?” submit ONLINE by 5 pm on day BEFORE class

- Watch videos from U.S. National Science Foundation. 2011. What science is telling us about climate change - videos. Washington, DC: U.S. National Science Foundation: The US NSF is “an independent federal agency created by Congress in 1950 “to promote the progress of science.”

Thurs., Week 2: The impacts of climate change

Tues., Week 3: The drivers of climate change: IPAT—population

Thurs., Week 3: The drivers of climate change: IPAT—affluence and technology
Assignment 2
Short analysis paper: “What drives CO2 emissions?” due at beginning of class: described above


Tues., Week 4: Ethics and climate change
Guest Lecture: Tim Christion Myers, UO Environmental Studies Program and Dept of Philosophy

Thurs., Week 4: What of the science should we (and do we) believe?
Assignment 3 (see above on syllabus)
Essay: “Different things we believe” due at beginning of class: described on syllabus – due at start of class

- How do we learn about the science? Getler, M. 2012. Climate change creates a storm: summary of PBS NewsHour controversy. PBS Ombudsman Blog

• **Why should we believe the science and which scientists should we believe?** Anderegg, W. R. L. 2010. Diagnosis Earth: the climate change debate. *Thought & Action*: 23-36.

• **What do you believe and why?** Leiserowitz, A. A. 2009. Global warming’s six Americas: an audience segmentation analysis. (20 December 2010): Center for American Progress

  THINK ABOUT: Which “6 Americas” group do you fit into (even if you aren’t an American)?


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**Tues., Week 5: Economics and climate change**


• White House Council of Economic Advisers. 2014. The cost of delaying action to stem climate change. Washington, DC: US President

• Reuters. 2014. Act now on climate change or see costs soar, White House says. *Reuters*

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**Tues., Week 6: Law and climate change**

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**Thurs., Week 5: Psychology and climate change**


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**Tues., Week 6: Sociology and climate change**


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**Tues., Week 7:**

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**Thurs., Week 6:**

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**Tues., Week 7:**

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**Thurs., Week 7:**

**Guest Lecture by Babe O’Sullivan (Sustainability Liaison, Office of Sustainability, City of Eugene) on “Eugene’s strategy for responding to climate change”**


• **What individuals are doing:** Maniates, M. F. 2001. Individualization: plant a tree, ride a bike, save the world? *Global Environmental Politics* 1(3): 31-52.
• **What some countries are doing on their own:** Anonymous. 2010. Costa Rica forest and climate policies. Pax Natura. *URL on Blackboard.*

• **What Multinational Corporations are doing:** Mills, E. 2009. From risk to opportunity: insurer responses to climate change. Boston: Ceres. *Skim to get a sense of what insurers are doing.*

**Tues., Week 8:** *Did the Kyoto Protocol influence carbon dioxide emissions?*

**Second Draft of Paper due at beginning of class**

• Clark, D. 2012. Has the Kyoto protocol made any difference to carbon emissions? *The Guardian.* 31 August 2014


**Thurs., Week 8: Mitigation and Adaptation policies**

• **Cap and Trade:** Durning, A. 2009. Cap and trade 101: a federal climate policy primer. Seattle, WA: Sightline Institute

• **Carbon Taxes:** Plumer, B. 2013. Seven thrilling facts about carbon taxes from the CBO. *Washington Post Wonkblog*


**Tues., Week 9: Geo-engineering**

• Readfearn, G. 2014 (August 3). Geoengineering the Earth’s climate sends policy debate down a curious rabbit hole. *Guardian (newspaper)*


**Thurs., Week 9: Thanksgiving – No class**

**Tues., Week 10: “Present Your Research Symposium”**

We will hold an in-class “Symposium on the Science and Politics of Climate Change.” You will each have 5 minutes to present the findings of your final paper. I will try to arrange for faculty members and others to be present for the presentations.

**Thurs., Week 10: Wrap-up discussion**

*Final Paper due by noon on day scheduled by the University for the final exam*