

Climate Change Policy
Spring 2019 - 11:374:426:01
Wednesdays, 9:15am to 12:15 pm, HCK 210

Instructor:

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Office Hours: By email appointment

Course Description

This course is an advanced seminar that examines topics in social, cultural and political aspects of climate change policy. We will look at the science of climate change and why it has been so contested in some quarters; the existing and predicted physical, cultural and societal impacts of climate change and how policies are developed to avoid or adapt to these; how vulnerability to climate change is measured and whether societies will be able to adapt to forecasted changes; multiscale policies from local levels to international levels to mitigate or adapt to climate impacts; and the ethical and social justice dimensions of policies for climate change.

Course Objectives

At the end of the course, students will have met several goals.

Goal 1: Understand key definitions, concepts, histories, and theories in the field of climate change policy

Goal 2: Apply key class concepts to real-world climate problems

Goal 3: Develop analytical skills to assess the myriad challenges that climate change poses to societies

To meet these goals, the course focuses on three primary activities:

(1) core readings, lectures, and discussion

(2) written assignments to apply substantive issues

(3) examining real world examples through films and simulations

Assessment methods for the above goals will include:

Goal 1: Final exam

Goal 2: Several take home research exercises demonstrating a real-world policy problem

Goal 3: Weekly reading summaries on key texts in course

Required Reading

There is one required text for the course, available at the Rutgers bookstore and other online bookstores, in both physical and e-book formats. Please ensure you purchase the correct edition of the text if you buy used copies.

- Dryzek, J et al (2013) *Climate Challenged Society*. Oxford University Press. ISBN 9780199660100

Other required readings will be posted online at our Canvas site.

Requirements & Grading

This course will serve as a vehicle to emphasize reading skills, discussion skills, and writing skills of the student. This is an upper level seminar, so there will be a fairly intense amount of reading and writing spread throughout the semester. Because we only meet once a week, each class session is equivalent to two regular period classes. Please budget your time for homework that you can devote the necessary time to staying up to date with the readings. Students are expected to do all of the required readings for the assigned dates and to be prepared to discuss them in class. I reserve the right to call on any student in class: please be prepared! Pop quizzes may be given at any time throughout the semester, particularly if I feel discussion is suffering from a lack of preparation.

Written work and their points are listed in the table below. Dates and details of assignments will be finalized throughout the course. Please discuss with me if any assignment or due date is unclear. There are 100 points that are possible to achieve in the work in this class. I will grade according to the following university scale. Cutoffs are firm, especially given the use of pluses and minuses

A	90-100
B+	89-88
B	80-87
C+	79-78
C	70-77
D	60-69
F	59 and under

The points you will be graded on in the class include the following assignments:

Assignment	Points (100 total)	Due Date
Reading summaries (4 total)	20	Due by class start, dates chosen by student
Take home skills assignments (4)	40	Feb 20, Mar 6, April 3, April 17
Final Exam	20	In class, May 1
Participation (can include pop quizzes)	20	Throughout semester

Written Assignments:

Written assignments are to be turned in in hardcopy at the beginning of classes in which they are due. This means assignments are NOT to be emailed to the instructor, or dropped off at my mailbox, unless you have an excused absence from class. Summary assignments will NOT be accepted after the class they are due; there are no

exceptions. **Late take-home assignments will be penalized 5 points per 24 hours late.** Written assignments must be typed in 12-point font and be single spaced. Your name must always be on the paper. Papers should be proofed carefully, and please pay attention to readability and writing style, as well as to content.

-- Reading summaries:

You will bring to class a brief (no more than 1 page) summary of all readings for the day that highlights the key concepts, definitions, theories and conclusions from the readings. These are graded pass/fail. You will need to do this 4 times throughout the semester (total 20 points). You are free to choose which days you will do these.

-- Take home assignments:

We will have four take home assignments throughout the semester which will require you to take a concept from class (such as carbon accounting) and demonstrate understanding of the concept through your own analysis (e.g. assess your own personal footprint). Deadlines and content will be discussed in class.

-- Exam:

This class will have a final exam. More details will be discussed in-class.

Canvas Information

This course will have a Canvas site. The site will contain the syllabus, and I will post on the website announcements, some class notes and PowerPoint presentations, and online readings. The website is only a supplemental aid, and not a replacement for attending class.

Attendance and Make-ups

Because this is a seminar-type class, attendance and participation are an important part of making the class work. Excessive absences (i.e. more than one) will detract from your participation grade. You will need to actively participate in class sessions in order to earn the full points for participation (20 points total, which includes potential group and individual assignments in class; pop quizzes; and other points to be discussed during class time). Additionally, if you cannot attend a class it is YOUR responsibility to obtain notes, syllabi changes, assignments etc. from another student. If you know you will have to miss class in advance because of something beyond your control (NOT, for example, a routine appointment), let me know (with relevant documentation) in time to arrange when you should hand in any work. Make-up after the fact is available only for a documented emergency. Students who will miss class due to an athletic competition or other official university events are required to follow official university policies if they wish to make up an assignment. You must notify me immediately, and at that time we can make arrangements for turning in missed work. Those who fail to do so will not be accommodated.

Withdrawals and Incompletes

Please see me if you feel you will need to withdraw from the class. You will need to follow university rules on dates for withdrawal. I will not give incompletes for this course, except for extreme emergency situations such as family problems or illnesses that you or an immediate family member suffer that would make it impossible for you to come to class. Documentation is required.

Academic Dishonesty

Academic dishonesty is not tolerated in any shape or form. If you are unclear on what constitutes dishonesty, please see the Rutgers Academic Integrity Policy at https://slwordpress.rutgers.edu/academicintegrity/wp-content/uploads/sites/41/2014/11/AI_Policy_2013.pdf . Dishonesty includes any form of plagiarism, cheating on tests, and other things. **I have a zero tolerance policy on academic dishonesty: An initial incident will result in the student receiving no credit for the assignment. A second incident will result in a failure in the class, and a grade of XF is an option for cases in which I feel there has been serious misconduct. It is your responsibility to be aware of what plagiarism is, and not to do it in any shape or form.** There may be additional university consequences, including expulsion.

Disability Services Statement:

If you are entitled to a disability accommodation, I encourage you to request it. Rutgers, the State University of New Jersey abides by Americans with Disabilities Act of 1990, the Americans with Disabilities Act Amendments of 2008, Section 504 of the Rehabilitation Act of 1973, Section 508 of the Rehabilitation Act of 1998, and the New Jersey Law Against Discrimination. If you have a disability and may require some type of instructional and/or examination accommodation, please contact me early in the semester so that I can provide or facilitate in providing accommodations you may need. If you have not already done so, you will need to register with the Office of Disability Services, the designated office on campus to provide services and administer exams with accommodations for students with disabilities. The Office of Disability Services is located in the Kreeger Learning Center, 151 College Ave, Suite 123, New Brunswick phone number 732-932-2848.

Other Policies

Please note the following.

1. There is no extra credit work.
2. The classroom is a place of mutual respect. Everyone is expected to treat each other and his/her questions and comments with civility. Cell phones must be off or on silent. Please, no text messaging, surfing websites, reading outside material, and the like during class. If you are using a computer during class I reserve the right to ensure you are using it for class purposes. If this privilege is being abused, I reserve the right to limit laptops in the classroom.

3. Announcements and instructions throughout the course (in class and on Canvas) will amplify, supplement, and possibly change the syllabus. The student is responsible for keeping up-to-date on these announcements and for understanding any changes.

4. Email is a medium that should be used carefully. I do not answer emails immediately and especially not on nights and weekends, so be aware that emailing me the night before your assignment is due is not acceptable. Please plan ahead and try to make use of office hours, not email, for more complicated or in-depth discussions.

Schedule of Class Periods and Readings:

This schedule is subject to change – pay attention to Canvas announcements.

* Indicates readings that will be posted on-line on Canvas

WEEK ONE, Jan 23: Introduction to climate change

After class read:

Dryzek et al. Ch 1, Climate's challenges

* Selection from *Climate Change Indicators in the United States 2016*. US EPA.

WEEK TWO, Jan 30: Problem and drivers of climate change

Key concepts: Emissions scenarios; Global warming potentials; Carbon budgets; IPAT; Ecologically unequal exchange

* McKibben, B. 2012. Global warming's terrifying new math. *Rolling Stone* July 19.

* Rosa et al. 2015. The anthropogenic (human) drivers of climate change. In *Climate Change and Society*, R. Dunlap and R. Brulle, eds, p. 33-60.

* Boone and Ganeshan. 2012. By the numbers: a visual chronicle of carbon emissions. In *Sustainable Supply Chains*. New York: Springer, p. 9-27.

* Xu et al. 2018. Global warming will happen faster than we think. *Nature* 6 Dec 30-32.

* Irfan, U. 2018. 4 big takeaways from the UN's alarming climate change report. *Vox* Oct 9, 2018

WEEK THREE, Feb 6: Social beliefs and climate change

Key concepts: Climate skepticism/denial; Information deficit model; Climate communication; Logical fallacies

Dryzek et al. Ch 2, Constructing science and dealing with denial

* Corner, A. 2012. Evaluating arguments about climate change. In: *Perspectives on scientific argumentation: theory, practice and research*, Dordrecht; New York: Springer, p 201-220

* McCright, A. M., & Dunlap, R. 2012. Organized climate change denial. In *Oxford Handbook of Climate Change and Society*. Oxford: Oxford University Press, p. 144–160.

* Hornsey, M. et al. 2016. Meta-analyses of the determinants and outcomes of belief in climate change. *Nature Climate Change* 6: 622-626.

* Markowitz, E and A. Shariff. 2012. Climate change and moral judgement. *Nature Climate Change* 2:243-247.

* Cook J. et al. 2018. Deconstructing climate misinformation to identify reasoning errors. *Environ. Res. Lett.* 13 : 024018

WEEK FOUR, Feb 13: Impacts of climate change

Key concepts: Climate hazards; Species redistributions; Sea level rise; Climate assessments

NO in-class meeting – work on your own

- * Pecl, C. et al. 2017. Biodiversity redistribution under climate change: Impacts on ecosystems and human well-being. *Science* 355 (Mar 31): 1-9.
 - * Mora, C. et al. 2018. Broad threat to humanity from cumulative climate hazards intensified by greenhouse gas emissions. *Nature Climate Change* 8: 1061-1071
 - * Third National Climate Assessment. 2014. *Overview: Climate Change Impacts in the United States*.
 - * NOAA. 2016. *New Jersey State Summary* report.
 - * Cooper et al. 2008. The potential impacts of sea level rise on the coastal region of New Jersey, USA. *Climatic Change* 90: 475-492.
- Complete readings then watch film: *Rising Tides*, available at Amazon.com.**
https://www.amazon.com/gp/product/B01H7QQ7YC/ref=pd_cbs_318_1

WEEK FIVE, Feb 20: Risk and vulnerability

Key concepts: Risk perception; Cultural Theory of Risk; Decision-making under uncertainty; Vulnerability assessments

- * Fishoff, B. et al. 1984. Defining risk. *Policy Sciences* 17: 123-139
 - * Schneider, S and Mastandrea, M. 2010. Risk, uncertainty, and assessing dangerous climate change. In *Climate Change Science and Policy*, Washington DC: Island Press, p 162-174.
 - * Lazrus H. 2015. Risk perception and climate adaptation in Tuvalu: A combined cultural theory and traditional knowledge approach. *Human Organization* 74: 52-71
 - * Safi, et al. 2012. Rural Nevada and climate change: Vulnerability, beliefs, and risk perception. *Risk Analysis* 32(6): 1041-1059.
 - * Thomas, K. et al. 2018. Explaining differential vulnerability to climate change: A social science review. *WIREs Climate Change* online first
- * Take-home assignment 1 due**

WEEK SIX, Feb 27: Economic approaches to climate change

Key concepts: Social cost of carbon; Marginal abatement costs; Carbon pricing; Decoupling

Dryzek J et al Ch 3 - The costs of inaction and the limits of economics

- * Wihbey, J. 2015. Understanding the social cost of carbon. *Yale Climate Connections*.
<https://www.yaleclimateconnections.org/2015/02/understanding-the-social-cost-of-carbon-and-connecting-it-to-our-lives/>
- * Gillingham, K. and J. Stock. 2018. The cost of reducing greenhouse gas emissions. *Journal of Economic Perspectives* 32(4): 53–72
- * Harrison, D et al. 2011. Economic policy instruments for reducing greenhouse gas emissions. In *Oxford Handbook of Climate Change and Society*. Oxford: Oxford University Press, p. 521-535.
- * Newell, R. et al. 2013. Carbon markets 15 years after Kyoto: Lessons learned, new challenges. *Journal of Economic Perspectives* 27(1): 123-146.
- * Aden, J. 2016. The roads to decoupling: 21 countries are reducing carbon emissions while growing GDP. *World Resources Institute* <https://www.wri.org/blog/2016/04/roads-decoupling-21-countries-are-reducing-carbon-emissions-while-growing-gdp>

WEEK SEVEN, Mar 6: National & regulatory approaches

Key concepts: Regulatory policy; Federalism; Clean Power Plan; Mass vs EPA; Executive orders

Dryzek, J et al. 2013. First half Ch 4 – Actions that promise and actions that fall short

* Jordan, A et al. 2011. Policy instruments in practice. In *Oxford Handbook of Climate Change and Society*. Oxford: Oxford University Press, p. 536-549.

* Nachmany, M. et al. 2017. *Global trends in climate change legislation and litigation*. Grantham Research Institute and Columbia Law School.

* Konisky, D and D Woods. 2016. Environmental policy, federalism, and the Obama Presidency. *Publius: The Journal of Federalism* 46 (3): 366-391

* Greenblatt, J. and Wei, M. 2016 Assessment of the climate commitments and additional mitigation policies of the United States. *Nature Climate Change* 6: 1090-1093.

* Aldy, J. 2017. Real world headwinds for Trump climate change policy. *Bulletin of the Atomic Scientists* 73: 376-381

* **Take-home assignment 2 due**

WEEK EIGHT, Mar 13: The Paris Agreement and international action

Key concepts: Kyoto Protocol; UNFCCC; Nationally Determined Contributions

Dryzek, J et al. Ch 6 – Governance

* Betsill, M. 2014. International climate change policy. In *The Global Environment: Institutions, Law, and Policy*, (4th edition), Axelrod, R. et al eds.

* Dimitrov, R. 2016. The Paris Agreement on Climate Change: Behind closed doors. *Global Environmental Politics* 16(3): 1-11.

* Hohne, N. et al. 2017. The Paris Agreement: resolving the inconsistency between global goals and national contributions. *Climate Policy* 17(1): 16-32

* White House (The White House Office of the Press Secretary). (2017). Statement by President Trump on the Paris Climate Accord. United States government. Retrieved from <https://www.whitehouse.gov/the-press-office/2017/06/01/statement-president-trump-parisclimate-accord>

* Urpelainen, J. & Van de Graaf, T. 2018 United States non-cooperation and the Paris agreement. *Climate Policy* 18(7): 839-851

WEEK NINE, Mar 27: Subnational, state and non-state actions

Key concepts: Subnational; Non-state; Carbon disclosure; Lock-in; Polycentric governance

* Nasiritousi, N. et al. 2016. The roles of non-state actors in climate change governance: understanding agency through governance profiles. *Int Environ Agreements* 16:109–126

* Van Der Heijden, J. 2018. City and subnational governance: High ambitions, innovative instruments and polycentric collaborations? In *Governing Climate Change: Polycentricity in Action?* p 81-96.

* Arroyo, V. 2017. State and local climate leadership in the Trumpocene. *Carbon & Climate Law Review* 4: 303-313.

- * Bernstein, S and M. Hoffman. 2018. The politics of decarbonization and the catalytic impact of subnational climate experiments. *Policy Sci* 51:189–211
- * Dietz, S. et al. 2018. An assessment of climate action by high-carbon global corporations. *Nature Climate Change* 8, p 1072–1075

WEEK TEN April 3: Individual actions

Key concepts: Carbon footprinting; Nudging; Consumerism; Labelling

- * Jones, J. and Kammen, D. 2011. Quantifying carbon footprint reduction opportunities for U.S. households and communities. *Environmental Science & Technology* 1;45(9):4088-95
- * Wynes, S and K. Nicholas. 2017. The climate mitigation gap: education and government recommendations miss the most effective individual actions. *Environ. Res. Lett.* 12 (2017) 074024
- * Wiedenhofer, D. et al. 2016. Unequal household carbon footprints in China. *Nature Climate Change* 7: 75-81
- * Abrahamse, W. and R. Shwom 2018. Domestic energy consumption and climate change mitigation. *WIREs Climate Change* 9: e525.
- * Manaites, M. 2001. Individualization: Plant a tree, buy a bike, save the world. *Global Environmental Politics* 1(3): 31-52.
- * **Take home assignment 3 due**

WEEK ELEVEN April 10: Climate justice and ethics

Key concepts: Climate justice; Inequality; Climate refugees; Loss and damage; Climate reparations

Dryzek, J et al. Ch 5 – What’s just

- * Harlan, S. et al. 2015. Climate justice and inequality. In *Climate Change and Society: Sociological Perspectives*. Dunlap and Brulle, eds, p. 127-163.
- * Doyle, T and S. Chaturvedi. 2011. Climate refugees and security: conceptualizations, categories, and contestations. In *The Oxford Handbook of Climate Change and Society*, p. 278-291.
- * Edendorfer, O. et al. Science and religion in dialogue over the global commons. *Nature Climate Change* 5: 907-909.
- * James, R. et al. 2014. Characterizing loss and damage from climate change. *Nature Climate Change* 4: 938-939.
- * Huggel, et al. 2016. Reconciling justice and attribution research to advance climate policy. *Nature Climate Change* 6: 901-908.

**Optional Fieldtrip to Jersey Shore Saturday April 13th 9am-4pm – can do a write up of this to fulfill one class summary (if you are behind)*

WEEK TWELVE, Apr 17: Climate responses: adaptation

Key concepts: Adaptive capacity; Adaptation pathways; Hard and soft adaptation; Disaster risk reduction

Dryzek, Ch 4 – Actions that promise and actions that fall short (second half)

*Carmin, J. et al. 2015. Adaptation to climate change. In *Climate Change and Society: Sociological Perspectives*, Dunlap and Brulle, eds. pp 164-198.

* McElwee, P. 2017. Vietnam's urgent task: Adapting to climate change. *Current History* Sept: 223-229.

* Wagner, M et al. 2014. Adaptive capacity in light of Hurricane Sandy: The need for policy engagement. *Applied Geography* 50: 15-23.

* Rozenzweig, C and Solecki, W. 2014. Hurricane Sandy and adaptation pathways in New York: Lessons from a first-responder city. *Global Environmental Change* 28: 395–408.

* Woodruff, S. and M. Stults. 2016. Numerous strategies but limited implementation guidance in US local adaptation plans. *Nature Climate Change* 6: 796-802

* **Take-home assignment 4 due**

WEEK THIRTEEN, April 24: Other ideas and wrap up

Key concepts: Decarbonization; Divestment; Green New Deal; Geoengineering; Negative emissions

Dryzek et al. Ch 7 – The anthropocene & Ch 8 – Transition, resilience and reconstruction

* Rockstrom, J. et al. 2017. A roadmap for rapid decarbonization. *Science* 355(6331):1269-1271.

* Braungardt, S. et al. 2019. Fossil fuel divestment and climate change: Reviewing contested arguments. *Energy Research and Social Science* 50: 191-200.

* Carlock, G. 2018. *A green new deal: A progressive vision for environmental sustainability and economic stability*. Data for Progress.

* Cusack, D. et al. 2014. An interdisciplinary assessment of climate engineering strategies. *Frontiers in Ecology and the Environment* 12: 280-287.

* Lenzi, D. 2018. The ethics of negative emissions. *Global Sustainability* 1, e7: 1–8.

WEEK FOURTEEN, May 1: In-class Final

Take Home Assignment #1 Climate Skeptics Interview EPIB 426 Climate Change Policy

For this assignment, you will choose one acquaintance who you know to be skeptical of climate change or to call themselves a climate change denier. You will interview this person to find out more about the basis of their beliefs on climate change. Use readings from week 3 to help you construct your questions. Ideas might include:

Why are you skeptical about CC?

Would you consider yourself highly knowledgeable about climate science? Why or why not? What particular parts of the science are you most aware of? What are your main sources of information regarding CC?

What values are important to you in terms of science or politics?

Does CC present any moral issues for you?

Do you think CC has become a partisan issue? In what way?

What would change your mind about CC?

Even if you don't believe in CC, would you be willing to take steps to conserve energy and reduce carbon emissions? Why or why not?

What would persuade you to take these steps or support climate mitigation policy in the future? Would you be persuaded by other political or religious leaders taking these steps?

After your interview, reflect on where your interviewee fits in terms of the discussion in the readings on cultural beliefs (e.g fatalist, individualist, hierarchist, egalitarian) or political influence.

The write up from your interview is due in hard copy in class on February 20. It is worth 10 points (10% of your grade).

Take Home Assignment #2 Risk Communication EPIB 426 Climate Change Policy

For this assignment, you will look at an example of how climate risk is currently communicated, and then assess this communication for its likely effectiveness, based on what you now know about risk and communication.

1. Find one example of climate risk communication – it can be domestic or international, and on any hazard with a relationship to climate change. Some examples to help your search include:

Coastal Flood Mapper: <https://coast.noaa.gov/digitalcoast/tools/flood-exposure.html>

Flood Inundation Mapping program: https://water.usgs.gov/osw/flood_inundation/

California Fire Hazard Severity:

http://www.fire.ca.gov/fire_prevention/fire_prevention_wildland_zones_maps

Florida Evacuation Zones: <https://www.co.bay.fl.us/511/Evacuation-Zones>

Famine Early Warning System network: <http://fews.net/data>

Horn of Africa Humanitarian Snapshot: <https://reliefweb.int/report/ethiopia/greater-horn-africa-region-humanitarian-snapshot-november-december-2018>

Early Warning Drought Bulletin, Kenya:

<https://reliefweb.int/sites/reliefweb.int/files/resources/Isiolo-August-2018.pdf>

Find your own version of something like the above communication strategies.

2. Examine how the risk communication document addresses the following areas:

- How is the risk defined and explained?
- Who is the audience for the communication?
- How are vulnerabilities to the risk identified and defined?
- How is the message regarding the risk communicated?
- How are options to address the risk presented?
- How is uncertainty addressed?

3. Suggest ways that the risk communication document could be improved, based on reading from class on risk, communication, and cultural perceptions.

The write up is due in hard copy in class on March 6. It is worth 10 points (10% of your grade). Be sure to include a print out of the risk communication document that you analyzed.

Take Home Assignment #3 International Negotiations EPIB 426 Climate Change Policy

For this assignment, you will participate in a climate simulation as a member of a team in class on March 13. Afterwards, you will write up your assignment individually and turn it in on April 3.

In your write-up, you will summarize the position taken by your team (as one of 6 countries/regions in the simulation) and what the primary concerns for your country/region are in terms of reducing GHG emissions. If you were in a multi-country team, please pick ONE of the countries - your choice - to do the rest of the assignment on. Please refer to your briefing paper to begin with, and then add **at least 2 additional sources** of information for your region, preferably peer-reviewed research papers published since 2015 on emissions trajectories, main sources of GHG emissions, role of your country/region in international climate negotiations in the past, or other related topics. Find this information via Web of Science or SCOPUS databases on the Rutgers Libraries website. Be sure to include the bibliographic information for your 2 articles in your write-up.

Discuss in your write-up the various stages of negotiations and follow-on pledges that were made by your group in the rounds of the negotiations in class. Were the pledges that you made realistic? How do they align with the country/regions' actual pledges and country implementation plans (known as NDCs) made at the Paris Agreement? Consult the Paris Agreement National Determined Contributions database at:

<https://www4.unfccc.int/sites/NDCStaging/Pages/All.aspx>

Read through the submitted NDC for your chosen country. Summarize the material from the NDC in your write-up, and reflect on:

- 1) How realistic and ambitious the country targets in the NDC are
- 2) If the targets are dependent on other actions from other countries
- 3) If the targets depend on particular types of climate policies (e.g. carbon taxes, cap and trade, budget investments) and if so, outline what these are.

Offer final reflections on how realistic and potentially effective your country's pledges are in light of topics and themes discussed in class readings so far.

Take Home Assignment #4 Carbon Footprinting EPIB 426 Climate Change Policy

For this assignment, you will calculate your own carbon footprint and reflect on individual versus structural policy solutions for the various sources of your emissions.

First, calculate your own footprint using the EPA calculator. You will need to find some information about your car's fuel efficiency, energy bills, etc, to have the most accurate account. <https://www3.epa.gov/carbon-footprint-calculator/>

Then check your own footprint against the average footprint in the US by zip code <https://coolclimate.berkeley.edu/maps> to see how you compare to your neighbors. Are the five main sectors of your emissions higher or lower than in your zip code as a whole? Discuss these results.

Then put your footprint against the footprint of major emitters at <http://unequalcarbonfootprints.org/ucf/index.cfm> How do your individual emissions compare to large emitters? Discuss these results.

Then select one area of your carbon emissions that surprised you, and find **two additional peer reviewed articles** that discuss that sector (ideally, specifically related to NJ or the NE US) and how emissions might be reduced through policy (either local, state, regional or federal). Use these readings combined with class readings to discuss what specific structural policies could be enacted in these sectors to reduce carbon emissions/footprints. Then compare with what individual steps you could take to reduce your footprint, given where your carbon emissions are distributed across sectors (transport, food, etc). How do the two approaches (individual vs structural) compare in terms of possible emissions reductions?

The write up from your footprints is due in hard copy in class on April 17. It is worth 10 points.

FINAL EXAM
EPIB 426 Climate Change Policy

Choose 10 questions to answer

Discuss what the terms normal/positivist and post-normal science mean and how they relate to climate change science and policy.

Discuss why climate risk perceptions are important in framing policy debates, and give at least one empirical example of a type of climate risk and how it has been framed.

Discuss some important ways cultural issues impact understanding of and responses to climate change.

Discuss key issues surrounding climate change impacts, risk and vulnerability in the New Jersey/NYC area, using specific examples from the readings.

Discuss how future greenhouse gas emissions scenarios are useful for generating possible policy responses, and particularly explain why the 2 degrees/450 ppm threshold has been important.

Discuss at least three possible policy approaches to climate mitigation and the pros and cons of each approach.

Discuss how and why climate change could be described as a wicked problem.

Discuss some of the major economic issues around climate change, paying particular attention to why the social cost of carbon is important.

Discuss arguments for and against approaches to climate action that rely on individual actions, versus structural actions at the policy level, with examples.

Discuss what the concept of climate justice refers to, and how it might shape global policy responses, using material from the films to illustrate at least some of your points.

What are the major reasons why some people continue to deny or be skeptical of the science of climate change? Discuss at least two theories or explanations for this phenomenon.

Discuss some of the major challenges as to why it may be difficult to simply adapt to future climate change, with examples.

Discuss what the primary challenges are at the global level climate negotiations to achieve sufficient emissions reductions, paying particular attention to ideas of development pathways and standards to evaluate emissions responsibility.