

## EART 191A Syllabus :: Spring 2017

### Instructors

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<b>Office Hours</b>	M/W 12 to 1 PM	Thurs 1 to 3 PM

### Course Goals

1. Gain and demonstrate knowledge in climate change science, impacts, mitigation and policy. Relevant activities: classroom lecture, paper reading and discussion, and final exam.
2. Learn/practice estimation. Improve your skills in making quantitative estimates. Learn different estimation strategies, and how to identify the most important aspects of a problem. Learn to use information at your disposal.
3. Learn/practice arguing a position. For example, arguing *for* or *against* the thesis that “Food systems are threatened by climate change within the next half-century.” Almost all technical jobs require that you voice your (expert) opinion, including in writing (reports to your bosses, to your clients, to your potential clients, and/or in technical literature). Relevant activities: writing assignments, classroom debates.
4. Learn/practice data visualization: What makes a good plot? What makes a bad plot? How to choose and make different types of plots? Relevant activities: assignments.

### Grading

Grades will be determined based on the following:

- 20% class preparedness, engagement and participation
- 40% for assignments (throughout the quarter, including lab exercises)
- 20% for final paper (5% for outline + 10% for draft + 5% for final version)
- 20% for final exam (all estimation problems)

### Expectations

We expect all students to:

- be prepared for class: do required readings ahead of time, bring any materials.
- actively participate in class discussions
- ask questions in class when needed
- come to the instructors for help when needed
- follow all standards of academic honesty, including plagiarism

## Schedule of Topics

Week	Lecture topic	Lab topic
1	Science	Research and references
2	Projections and Impacts	Outlines and topic sentences
3	Fossil fuels	Paragraph and paper structure
4	Renewable energy	C-ROADS
5	Carbon capture and storage	Data binning
6	Geoengineering	Data plotting part 1
7	Economics	Final paper outline development
8	Policy	Data plotting part 2
9	Psychology	Logical fallacies
10	Long-term sustainability	Prep for final exam