ESM464/564: Managing Climate Risks/Vulnerabilities

Instructor: Office: 
Course: Office Hours: 
Time: Contact: 
Classroom: 

Course Description: This course introduces the fundamentals of climate policy, adaptation planning, other relevant climate issues from global to local levels. We will explore global climate change agreements, including the UN Framework Convention on Climate Change as well as national and local level responses to climate change. Students will learn how global initiatives, countries, and local institutions are evaluating and responding to climate risks and vulnerabilities. This is not a course on the scientific basis of climate change.

Learning Objectives. Students will understand:
- The core risks/vulnerabilities associated with climate change
- International approaches to addressing climate change (e.g., UNFCC, IPCC, Kyoto)
- The difference between mitigation and adaptation
- How climate adaptation plans respond to local vulnerabilities and risk from climate change

Student Conduct Code: PSU has a well-defined conduct code, http://www.pdx.edu/dos/codeofconduct. Academic honesty is essential. Please do not present someone else’s ideas or work as your own without attribution. Please maintain professional conduct, and avoid using your computer/phone/tablet for personal reasons during class.

Attendance and Participation: Engaged participation is expected in all class activities. Participation will be a significant portion of the grade. If you need special accommodations, please discuss your needs with me as early as possible and contact the Disability Resource Center. If you are ill, please let me know by email and stay home so that others don’t get sick too! Extended absences will require notes from a doctor’s office.

Communication and Availability: I am happy to answer questions via email, but please allow 24-48 hours for a response and check the syllabus and handouts first! You are welcome to drop in during my office hours to discuss questions about the course. If you make an appointment to meet at another time, please send me a description of your question by email so that I can be prepared. If you are having difficulties with the assignments or the material, please come to office hours early in the term.

Class Format and Student Activities: Most class periods will be devoted to group and whole-class discussions on reading assignments, supplemented by lectures to introduce key concepts and provide context for the readings. Other learning activities will include case studies on adaptation plans, guest lectures, and student presentations during class.

Reading Materials: This course will draw on readings from the following texts:


The required texts will be supplemented by primary scientific literature and other gray literature posted on the course website.
**Assessment:** Assignments will be graded with points and weighted as shown below. Due dates for assignments are shown on the course schedule.

**Participation (40%)**

**Active Participation in Course Discussion (15%):** Active participation grading will be based on your contribution to class discussions, lecture questions, and group activities. The content of this course requires active participation for me to evaluate your facility with the subject matter. You will be evaluated based on your ability to engage with the subject matter at a professional level with clear thinking and organization.

**Daily Reading Questions (10%):** For each class session in which there are required readings you will submit at least two key questions (typed) you had about the reading. Questions must focus on the readings assigned for the day and will be submitted during class. Students will be asked to present their questions during the discussion.

**Student Led Discussions (15%):** For each class session in which there are required readings, a team of 2 students will lead a 30-45 minute discussion on the day’s readings. Discussion leaders will develop a discussion outline and distribute printed copies to the entire class. The discussion outline should highlight and recap the main points of the readings, summarize a short list of key “take home lessons”, and include any figures or tables from the reading material that are important for the class to understand. Discussion leaders should use the discussion outline to structure the discussion and incorporate some of the questions posed by other students. Discussion leaders are excused from submitting daily reading questions on the days they lead the discussion.

**Homework (60%)**

**Climate Action Plan Case Studies (10%):** Students will work in groups of 2-3 students to present case studies of climate action plans. A list of candidate plans will be given, but students are free to choose other case studies with my approval. Case studies will be presented (20-30 minutes) throughout the term. Students will lead a virtual field trip in the presentation, covering the required topics in an engaging manner. Details will be provided separately, but case study presentations will use a climate change planning evaluation matrix (to provide consistent methodology) that covers: location and brief description of the planning entity; the planning process; the fact base used to motivate climate action planning; the plan goals, policies, and implementation; the current status of the climate action effort; and recommendations for improvement.

**Adaptation Memos (30%):** Three 2-page memos (10% each) will be assigned during the quarter. A memo is a short written document designed to highlight the key information a decision maker needs to understand. Each memo will analyze a different aspect of a local adaptation plan that you select to work with for the term. The first memo will focus on the planning process. The second will focus on projected climate impacts, vulnerability, and risk. The third will focus on climate adaptation strategies. A rubric detailing the expectations and grading for each memo will be handed out prior to each due date. Generally, grades are based on the following aspects: 1) logical structure of writing, 2) use of evidence in your analysis, 3) tone and professionalism, 4) appropriate use of references, and 5) written clarity (e.g., spelling, grammar, organization, etc.).

**Final Project Poster (20%):** The final project is a poster analyzing the local climate adaptation plan on which you wrote your adaptation memos. Your poster should summarize the key points of your climate adaptation plan (drawing on the memos), and address how climate policy, planning frameworks, and adaptation learning we have covered in the class are relevant. A final project assignment detailing my expectations and grading for the final project will be handed out prior to the due date. You will present your final project posters to the class during the last week two class meetings.
## Class Schedule

**Assignments:** Due on the date listed below  
**Readings:** Should be read prior to the class date on which the reading is listed

<table>
<thead>
<tr>
<th>Class</th>
<th>Date</th>
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<th>Readings</th>
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<td>Jan 5</td>
<td>Course &amp; Student Introductions</td>
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<td>01B</td>
<td>Jan 7</td>
<td>CC Science and Impacts</td>
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<tr>
<td>02A</td>
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<td>International Conventions on CC</td>
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<td>Federal, Regional, and Local Adaptation</td>
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<td>04A</td>
<td>Jan 26</td>
<td>Adaptation and Mitigation as Compliments</td>
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<td>04B</td>
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<td>Adaptation Planning Models</td>
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<td>05A</td>
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<td>CC Vulnerability</td>
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<td>06A</td>
<td>Feb 9</td>
<td>CC Adaptation Strategies</td>
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<td>06B</td>
<td>Feb 11</td>
<td>Monitoring and Evaluating CC Adaptation</td>
<td>20, 21</td>
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<td>07A</td>
<td>Feb 16</td>
<td>Overcoming Barriers to CC Adaptation</td>
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<td>07B</td>
<td>Feb 18</td>
<td>Developed vs. Developing Country Equity</td>
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<td>08A</td>
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<td>Environmental Justice and Climate Justice</td>
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<td>08B</td>
<td>Feb 25</td>
<td>Accounting for Climate Migration</td>
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<td>09A</td>
<td>Mar 1</td>
<td>Future Research Directions</td>
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<td>09B</td>
<td>Mar 3</td>
<td>Portland Climate Action Plan</td>
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<td>Guest Speaker</td>
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<td>10A</td>
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<td>Final Project Presentations</td>
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<td>Mar 10</td>
<td>Final Project Presentations</td>
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<td>Final Project Posters</td>
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<td>Finals</td>
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* Assignment details will be distributed for upcoming Case Studies, Adaptation Memos, and Final Posters.

**Readings:**
1. IPCC 2014 Summary for policymakers. In Climate Change 2014: Impacts, adaptation, and vulnerability (pp. 4-10 and 25-30) (DISTRIBUTE IN CLASS).
2. Climate Change Science and Policy (CCSP) Chapter 1 (Climate Change Science Overview), CCSP Chapter 2 (Detection and Attribution).
4. CCSP Chpt 21 (International Treaties) & 27 (CDM and Mitigation in Developing Countries)
6. CCSP Chapter 29 (Understanding the Climate Change Challenge in China)
7. Climate Change Communication Guide (CCCG) – Introduction – Chapter 5 (pp.1-29)
8. CCSP Chapter 42 (The Road Forward)
10. CCSP Chapter 33 (National Policy) and Chapter 36 (US State Climate Action)
12. Center for Ocean Solutions 2010 – Climate change adaptation planning model – Module 2 (Overview of the Climate Change Planning Model)
13. Center for Ocean Solutions 2010 – Climate change adaptation planning model – Module 4 (Climate Change Resilience, Vulnerability and Risk)
18. Center for Ocean Solutions 2010 – Climate change adaptation planning model – Module 5 (Developing Adaptation Strategies)
23. CCCG Chapters 6-8 (pp. 30-38)
26. CCSP Chapter 24 (Inequities and Imbalances), Chapter 25 (Ethics, Rights, and Responsibilities), Chapter 26 (Developing Country Perspectives)