GEOG 100 – CLIMATE JUSTICE
SYLLABUS

Mon 9:00 to 9:50am; Weds 9:00 to 9:50am in Kelley Engineering Center (KEC) Room 1001

Recitation 1: 2:00 to 2:50pm Thursday;
Recitation 2: 9:00 to 9:50am Friday.

Instructor: Prof. David J. Wrathall PhD
Office location: 348a Strand Agricultural Hall
Department: College of Earth, Ocean and Atmospheric Sciences
Email: wrathald@oregonstate.edu
Phone: 541-737-8051
Office Hours: 10:00 to 11:00am Mon and Weds.
Teaching Assistant: Grant Zoch (zochg@oregonstate.edu)

CATALOG COURSE DESCRIPTION
Unequal distribution of social, economic and political power that creates winners and losers from climate change. Case studies of climate-change-related environmental degradation, conflict, conservation, climate denial, renewable energy, and investment. Concepts and actions to promote climate justice.

COURSE DESCRIPTION
Climate change is the defining issue of our age. It is frightening, complex and difficult to understand, and it will test humanity’s collective ability to problem-solve. Most importantly, its impacts will unevenly affect humanity. The basic justice problem of climate change is that the people who have historically benefitted the most from the burning of fossil fuels are not the same people who will bear the most severe consequences. Impacts will unfold over generations, falling disproportionately to poor people in the developing world, in ways that upset livelihoods and block pathways toward long-term development. Likewise, shifting the global economy away from fossil fuels will not curtail climate change impacts in the short-term, and the new economic costs and opportunities of Green Energy may even leave the poorest people even farther behind.

We will examine climate change’s “winners” and “losers” both in the United States and beyond with a geographic multidisciplinary perspective. Climate change’s winners and losers can be best understood in terms of access and control over resources that affect environmental health and sustainable livelihoods. Climate change and its impacts are embedded in political and economic structures and institutions. In order to address climate change, and discover real solutions, we must also understand the forces that perpetuate both carbon-intensive economies and climate vulnerability.

The problem of climate change is fundamentally about global fairness. It causes us to rethink how we, as citizens of the United States, relate to each other, and how we relate to people in far-away places affected by climate change impacts, how we relate to future generations, and how
we relate to our planet. In this course, we will examine the scientific, technical and economic problems of climate change through the lens of justice.

BACCALAUREATE CORE COURSE CATEGORY: Successful completion of this course fulfills OSU’s Baccalaureate Core Course requirement for study in **Difference, Power and Discrimination**.

COURSE LEARNING OUTCOMES: The Big Idea of this climate justice course is **social vulnerability**. Ten years from now, students should have an enduring understanding of social vulnerability, how to recognize it, and understand its origins and consequences. The teaching challenge is to help each student answer the following questions:

- What does climate justice mean for my educational future, and decisions about my future career?
- Does learning about climate justice satisfy my concerns: such as career opportunities; better local, national and global citizenship; a richer, more principled personal life; etc.?

Upon successful completion of this course, students will be able to:

<table>
<thead>
<tr>
<th>Learning outcome</th>
<th>Covered during the following weeks:</th>
<th>Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Describe the basic elements of climate change and its impacts;</td>
<td>1, 2</td>
<td>Weekly in-class assignments</td>
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<td>Final exam</td>
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<tr>
<td>2. Explain how social vulnerability creates “winners” and “losers” of climate change impacts and efforts to reduce reliance on fossil fuels;</td>
<td>4, 5, 6, 7, 8, 9 (Winners and losers hypotheses 1 – 6)</td>
<td>Weekly in-class assignments Story Mapping group project</td>
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<td>3. Apply the concept of social vulnerability to real world cases, including in our personal lives, careers and communities;</td>
<td>3</td>
<td>Weekly in-class assignments Writing assignment</td>
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<td>4. Evaluate real-world problems of climate justice as a team;</td>
<td>2, 3, 5, 6, 7, 8, 9, 10 (Case studies 1 – 8)</td>
<td>Weekly in-class assignments Story Mapping group project</td>
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<tr>
<td>Difference, Power and Discrimination Learning Outcomes:</td>
<td>Covered during the following weeks:</td>
<td>Assessment</td>
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<tr>
<td>1. Explain how difference is socially constructed,</td>
<td>4, 5, 6, 7, 8, 9 (Winners and losers hypotheses 1 – 6)</td>
<td>Writing assignment</td>
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<td>Story Map</td>
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<td>Final exam</td>
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<td>2. Using historical and contemporary examples, describe how perceived differences, combined with unequal distribution of power across economic, social, and political institutions, result in discrimination, and</td>
<td>2, 3, 5, 6, 7, 8, 9, 10 (Case studies 1 – 8)</td>
<td>Story Map</td>
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<td>Exams</td>
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<td>3. Analyze ways in which the interactions of social categories, such as race, ethnicity, social class, gender, religion, sexual orientation, disability, and age, are related to difference, power, and discrimination in the United States.</td>
<td>2 (Intersectional, intergenerational and international justice) and 3 (social vulnerability)</td>
<td>Writing assignment</td>
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<td>Exams</td>
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Geog 100 (Climate Justice) fulfills the Difference, Power, and Discrimination (DPD) requirement in the Baccalaureate Core. The DPD requirement engages students in the intellectual examination of the complexity of the structures, systems, and ideologies that sustain discrimination and the unequal distribution of power and resources in society. The unequal distribution of social, economic, and political power in the United States and in other countries is sustained through a variety of individual beliefs and institutional practices. These beliefs and practices have tended to obscure the origins and operations of social discrimination such that this unequal power distribution is often viewed as the natural order. Examination of DPD course material will enhance meaningful democratic participation in our diverse university community and our increasingly multicultural U.S. society.

**LEARNING RESOURCES:**

Andreas Schmittner (2018). *Introduction to Climate Science*. An open-source text, hosted by Oregon State University (accessible at: http://library.open.oregonstate.edu/climatechange/)

*Why this text book?* Andreas Schmittner provides a basic, intelligible summary of the key topics around climate change: climate science, climate change impacts, future projections, climate policy, and solutions.


*Why this text book?* Joseph Romm provides a basic, intelligible summary of the key topics around climate change: climate science, climate change impacts, future projections, climate policy, and solutions.
**Selected chapters:**

Why this text book? Naomi Klein has written a book that is totally unique in four ways: 1) It is based on the scientific evidence on climate change; 2) it accurately connects the problem of greenhouse gas emissions to our economic dependence on cheap fossil fuel; 3) it recognizes the need for alternatives and address barriers to change; and 4) it poses a set of solutions. While students may agree or disagree with This Changes Everything, we will take its arguments seriously.

**Additional readings will be posted on Canvas.**

### Course schedule:

<table>
<thead>
<tr>
<th>Week 1:</th>
<th>Topics:</th>
<th>Readings:</th>
<th>Assignments:</th>
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| 1. Introduction (24 Sept) | - Course overview  
- Course structure, and overview  
- Expectations for in-class interactions  
- Climate change: a definition  
- Winners and losers hypothesis | “On Hurricane Maria Anniversary”  
https://goo.gl/QQ9nPZ |  |
| 2. Climate justice case study: “winners” and “losers” in Hurricane Maria (26 Sept) | **Case study:** Hurricane Maria | Additional readings:  
Time to stop talking?  
https://goo.gl/BhbWAc |  |
| Week 2: | Topics: | Readings: |  |
| 3. Climate justice: the bad news and the good news (1 Oct)  
4. Climate justice key terms and ideas (3 Oct) | - Campus initiatives  
- Intersectional justice  
- International justice  
- Intergenerational justice  
- Social vulnerability: why vulnerability to climate change differs by race, ethnicity, social class, nationality, gender, religion, sexual orientation, disability, and age  
- Universal rights versus individual responsibilities | Klein, Introduction |  |
| Week 3: | Topics: | Readings: | Additional readings:  
Harvey: what’s a 1000-year flood?  
https://goo.gl/rzCmf2  
Terrifying new math:  
https://goo.gl/pDptSj |  |
| 5. Climate science in a nutshell (8 Oct)  
6. Sources of emissions (10 Oct) | - Science of greenhouse gasses  
- Sources of emissions  
- Economic growth and fossil fuels  
- Representative Concentration Pathways  
- Climate feedbacks |  |  |
| **Case study:** Hurricane Harvey |  |  |  |
| Week 3: | Topics: | Readings: |  |
| 7. Projected impacts (15 Oct) | - Climate change hazards  
- Human security, food security and water security | (Romm, Ch. 2 & 3) |  |
| Week 4:  | 9. Climate refugees (22 Oct)  
10. Integral Climate Change Adaptation (24 Oct)  
Topics:  
- “Migration as adaptation”  
- “Climate refugee”  
- Climate change and conflict  
- Politics of land-use planning  
- Ecosystem services  
**Case Study:** The Hurricane Katrina Diaspora  
Additional readings:  
- Climate or planning?  
  https://goo.gl/GSqFgD  
- Katrina: how long does it take to recover?  
  https://goo.gl/irheC4  
- The Katrina Diaspora:  
  https://goo.gl/LmVGR4  
| Week 5:  | 11. Case studies: Bangladesh and Syria (29 Oct)  
12. International Climate Policy (31 Oct)  
Topics:  
- United Nations Framework Convention on Climate Change (UNFCCC)  
- Intergovernmental Panel on Climate Change (IPCC)  
- Paris Climate Agreement  
- “A common problem with shared but differentiated responsibilities”  
**Case Study 4:** UN Climate Negotiations Activity  
Readings:  
- IPCC AR5 Ch 12: Human Security  
  https://goo.gl/r8Vp2Q  
| Week 6:  | 13. So Crazy, It Just Might Work (5 Nov)  
14. Climate Denialism (7 Nov)  
Topics:  
- Positive and negative externalities  
- Fossil fuels as an “agent”  
- Power networks: companies, institutions, nations and people  
- The history of climate denialism  
- Denialism’s mythical narratives  
Readings:  
- (Romm, Ch. 4 & 5)  
- Bumpus & Liverman 2008, Accumulation by Decarbonization  
| Week 7:  | (12 Nov – Veterans’ Day, No class)  
15. Educate, Advocate, Activate (14 Nov)  
Topics:  
- Climate activism  
- Structural vulnerability  
- New narratives, discourses and political strategies  
- Indigenous climate justice campaigns  
- “Green consumers” vs. “Green political actors”  
Readings:  
- (Klein Chs. 1)  
| Week 8:  | 16. Divestment  
Topics:  
Readings:  
Additional readings:
<table>
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<tr>
<th>Date</th>
<th>Topic</th>
<th>Readings</th>
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<tr>
<td>(19 Nov)</td>
<td><strong>Case study:</strong> Divestment at Oregon State University</td>
<td><a href="#">McKenzie Funk, “Did Exxon Lie about Global Warming?”</a></td>
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<td>(21 Nov – Thanks Giving Holiday, No class)</td>
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<td><a href="#">The Union of Concerned Scientists, “Global Warming Skeptic Organizations”</a></td>
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<td><strong>Week 9:</strong></td>
<td><strong>14. Decarbonization:</strong> we can’t buy our way out of this</td>
<td><strong>Topics:</strong></td>
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<td></td>
<td>(26 Nov)</td>
<td>- Ecosystem services</td>
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<td>- Market-based emissions reduction, e.g. Cap and trade, carbon</td>
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<td>trading, REDD+</td>
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<td>- Technological diffusion</td>
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<td>- Biofuels and carbon sequestration</td>
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<td>- Green energy technology</td>
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<td>- Green energy grids</td>
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<td>- Geo-engineering</td>
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<td>- Extraction</td>
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<td><strong>Readings:</strong></td>
<td>(Klein Chs. 9 &amp; 10 pp. 348 to 358)</td>
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<td><strong>Week 10:</strong></td>
<td><strong>Topics:</strong></td>
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<td><strong>19. Values, adaptation, and regeneration (3 Dec)</strong></td>
<td>- Ecological renewal</td>
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<td>- Growth economies versus moral economies</td>
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<td>- New localism</td>
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<td><strong>Case Study:</strong></td>
<td>The Dakota Access Pipeline: “if they can’t transport it, we can’t burn it.”</td>
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<td><strong>Readings:</strong></td>
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<td>(Klein Chs. 11, 12 &amp; 13; Romm Chs. 6 &amp; 7)</td>
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<td><strong>Finals week:</strong></td>
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<td><strong>Story Maps Presentation</strong></td>
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<td>(3 Dec)</td>
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<td><strong>Final grades available:</strong> (12 Dec)</td>
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**COURSE GRADING AND ASSIGNMENTS:**

<table>
<thead>
<tr>
<th>Assignment</th>
<th>Percentage</th>
<th>Points</th>
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<tbody>
<tr>
<td>Participation</td>
<td>–</td>
<td>10%</td>
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<tr>
<td>In class assignments/Recitations</td>
<td>–</td>
<td>10%</td>
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<tr>
<td>Writing assignment</td>
<td>–</td>
<td>20%</td>
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Climate Justice Story Map – 30% (300 points)
Exams – 30% (300 points)
Total - 100% (1000 points)

**Participation:**
Actively engaging in the course material through classroom participation is very important in this class, and necessary for a good grade! Commenting during a large class can be intimidating, so small group activities will be arranged in order to encourage all students to participate. Participation will be especially encouraged in recitations.

I strongly encourage students to engage in course topics with me after class, and during office hours.

**In-class Assignments and Quizzes:**
Pop quizzes will be given randomly every week, covering assigned readings from the previous weeks. The format for quizzes and in-class assignments will vary.

**Group Project – Climate Justice Story Map:**
In groups of 3 to 5, students will carry out a Climate Justice Campaign during the course of the term. The purpose of this interactive assignment is to apply the concepts from this course (intersectional, international, intergenerational and ecological justice problems) to a problem of climate justice in the real world. Students will be asked to describe and visualize the societal structures that perpetuate the emission of greenhouse gasses and/or the vulnerability of people to climate change impacts and their consequences. This assignment has four parts.

1) **Proposal:** In week 3, students will submit a proposal for a Climate Justice Story Map for a pass/fail grade. It will have four parts. Students will clearly state the aim of their Climate Justice Story Map. They will identify their story, and clearly define the problem. They will outline a plan of action, and identify each team member’s roles.

2) **Implementation:** Between week 5 and week 9, students will implement their Climate Justice Story Map.

3) **Presentation:** In week 10, each group will present a short 5 minute summary of their Climate Justice Story Map to the rest of the class. Instructors will evaluate these presentations against a rubric, to be provided.

4) **Written evaluation:** In week 9, each student will submit a written evaluation of their Climate Justice Story Map. Each student will evaluate their effectiveness according to the criteria they described in the proposal.
Be authentic! Be interactive! Draw on your own lives and experiences! Design a story on a topic that matters to you!

**Writing assignment:**
In week 4 of the course, students will submit an 500-word writing assignment describing, and evaluating a real-life climate justice issue, from their own perspective. Students will be given clear guidance on the potential topics, and on the grading criteria in class.

**Mid-term and Final exams:**
In week 5 of the course, students will take a short mid-term exam, and a final exam will take place on DATE TBD. The exams will be multiple choice and short answer.

**Extra credit:**
Opportunities for extra credit will be provided. These may include attending special lectures or activities on campus. Students may obtain extra credit for reading and summarizing additional readings.

**RECITATIONS:**
The course will be structured weekly around two 50-minute lectures and a recitation. In the recitations, teaching assistants will guide smaller groups of students in reviewing the lectures, and examining and critically discussing 8 case studies on climate justice problems. Students will also be given time each week to plan and implement their group projects, the climate justice campaign and their final presentations.

**THE ROLE OF THE PROFESSOR:**
My aim is to provide students with a safe, steadily changing and gently destabilizing context, so their minds can tumble with new concepts and creatively settle on novel combinations of ideas, and original strokes of insight. To accomplish this, students must be provided an inclusive learning context in which they can vigorously wrestle with concepts and tools.

1. **Classroom instruction:** I aim to clearly explain concepts of climate justice in lectures.
2. **Interaction:** I am to create a classroom atmosphere in which concepts can be freely discussed, debated, synthesized, and disputed. I am committed to maintaining an atmosphere of safe discourse and civility, while encouraging students to overcome their inhibitions and establish new intellectual networks and collaborations.
3. **Application to the real world:** I aim to provide activities in which students apply and assess concepts in the real world. I am to create assignments that students will find engaging, relevant and applicable outside of the classroom.

**EXPECTATIONS FOR STUDENTS:**
The world faces considerable challenges –climate change, stark inequalities of wealth, intransigent poverty— and to solve them our students must be bold, imaginative and courageous.

1. **Read:** Students are expected to attend all classes and engage substantively in the course material, including completing all reading assignments before class.
2. **Discuss:** Students are invited to freely express their ideas and perspectives, while observing standards of mutual respect, civility, and professionalism. We are all richer if we can listen and
speak to each other from our different perspectives and backgrounds, with patience for the cultural, national and linguistic differences.

3. Prepare: Students will demonstrate mastery of English (spelling and grammar) in all written materials. Students learning English as a second language should feel free to visit the Student Writing Center.

4. Communicate your needs: Emails to Dr. Wrathall should be short, and contain “GEOG 100: Climate Justice” in the subject line. For detailed communication, students are expected to come to office hours. Unless special permission is granted by the professor, use of computers and mobile electronic devices is not permitted during class.

ACCOMMODATIONS FOR STUDENTS WITH DISABILITIES:
Accommodations for students with disabilities are determined and approved by Disability Access Services (DAS). If you, as a student, believe you are eligible for accommodations but have not obtained approval please contact DAS immediately at 541-737-4098 or at http://ds.oregonstate.edu. DAS notifies students and faculty members of approved academic accommodations and coordinates implementation of those accommodations. While not required, students and faculty members are encouraged to discuss details of the implementation of individual accommodations.

ACADEMIC HONESTY POLICY:
The goal of Oregon State University is to provide students with the knowledge, skills, wisdom and values they will need to contribute to society. Cheating, fabrication, assisting, tampering and plagiarism will not be tolerated. Any student engaging in breaches of academic honesty policies will be referred to the Office of Student Conduct and Community Standards for disciplinary action, and will result in a penalty ranging between a zero on the assignment and a failing grade for the course. As stated on the Office of Student Conduct’s Academic Dishonesty Report Form, “A first violation of academic dishonesty includes the creation of a five-year confidential student conduct record maintained in the Student Conduct & Community Standards Office.” See: http://studentlife.oregonstate.edu/studentconduct/offenses-0

Cheating: use or attempted use of unauthorized materials, information or study aids.
Fabrication: Falsification or invention of any information.
Assisting: Helping another student to commit an act of academic dishonesty.
Tampering: Altering or interfering with evaluation instruments or documents.
Plagiarism: Representing the words or ideas of another person as one’s own.