

LA 410/510 Climate Adaptation Design & Planning

Prof. Bart Johnson • Department of Landscape Architecture • Univ. of Oregon • Winter 2021
Tu/Th 10:15-11:45 • Virtual Classroom • 4 credits • Graded or P/NP • CRN 23266/23294
Office hours: Wed. 10-12, Thurs. 1-3 (or by appt.) • 541-510-7346 • bartj@uoregon.edu



How can design and planning help societies adapt to climate change?

One of the grand challenges facing society is that people must craft and implement adaptive responses to climate change and human population growth for which there is little, and in some cases no, historical precedent. To effectively adapt, we must anticipate future risks, catalyze adaptive behaviors, and do so in ways that are robust to the inherent uncertainties of evolving threats, tipping points, and extreme events such as wildfires, storms and floods.

Explore how climate change, ecosystems and people may interact to create the landscapes of the future

Learn how to anticipate future hazards and catalyze societal adaptation to global environmental change at local to landscape scales with proactive landscape design, planning and management interventions

Course Organization

Students will gain knowledge of climate adaptation challenges from a broad array of perspectives through readings, lectures, and discussions, and apply it to conceiving, exploring and critiquing solutions through problem-solving charrettes.

Weekly topics focus on key landscape planning, design and management contexts with attention to a common set of core issues:

- Mechanisms, projections and choices for climate change
- Adapting to future uncertainty by managing hazard and risk
- Responding to intensifying disturbances: wildfire, heat waves, storm surges and floods
- Sustaining biodiversity and ecosystem services as key foundations of human societies
- Navigating tradeoffs among landscape priorities

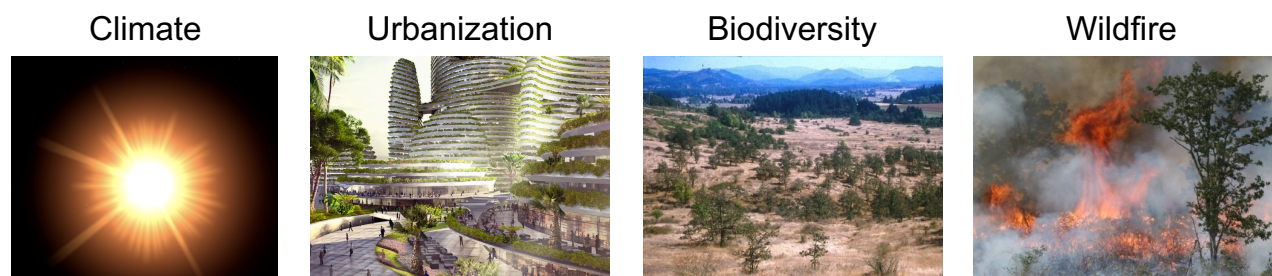
Course Objectives

The purpose of this course is to develop skills in exploring, conceiving and crafting landscape planning, design and management solutions that respond to the challenges of global environmental change while serving multiple and potentially conflicting societal priorities.

By the end of the course, students will be able to:

- Apply scholarship and practical tools in professional and civic settings to:
 - Help society anticipate and adapt to climate change;
 - Sustain valued ecosystem services, landscape productions and social justice; and
 - Reduce risk from extreme climate-driven events and rapidly changing baselines.
- Identify important interactions and feedbacks between climate change, ecosystem responses and human decisions at local and regional scales in light of uncertainties at each level.
- Explain the mechanisms through which high-functioning ecosystems sustain the core processes of life through resilience and adaptation to change and how to harness those mechanisms to support human societies
- Formulate strategies to anticipate and respond to climate impacts through adaptation actions intended to either resist climate impacts, confer resilience to those impacts, or facilitate change to more climate-adapted systems.

Through this process students will learn lifelong skills for exploring where, when and how climate change impacts may manifest, and how actions by designers, planners, landowners and policy makers can sustain landscape qualities that are central to people's daily lives. In particular they will learn to integrate creativity with critical thinking to help people imagine their choices for the future, evaluate the potential outcomes of different courses of action, and in doing so identify strategies to enhance society's ability to prepare for and respond to climate change.



Ground Rules for the Virtual Classroom

- Focus entirely on the class – no texting, emailing, side conversations or other extraneous activities. Please keep your video on so we can see each other unless your internet connection can't support it.
- Be respectful of everyone: Distracting noises or visuals detract from everyone's experience.
- If you're in a noisy environment, please mute your audio when not speaking so it doesn't broadcast. Headsets with a microphone recommended for clarity of hearing and speaking.
- Let's work together to develop collaborative protocols, for example signaling when we want to talk while making sure there's space for everyone who wants to say something.

Course Mechanics:

The course meets in Zoom meeting format twice per week. Students are expected to attend all classes in real time to the extent possible. If you are unable to attend a class, you must view the recorded Zoom Video and complete an additional assignment to make up for the work and learning done in class.

Course Requirements and Evaluation

Reading Reflections: For each class session in which there are required readings, students will read the assigned articles and develop at least two key synthetic questions and/or summaries of key points to help guide their thinking for the presentation and class discussion. These questions/summaries must be submitted online in Canvas no later than 2 hours before the class session.

Problem-solving Assignments and Charrettes: In addition to reading assignments, students will prepare in small teams for a series of problem-solving charrettes conducted during Thursday class sessions following a Tuesday lecture on a specific issue of climate adaptation. Timely participation in these sessions and the quality of content submitted will be assessed in grading.

Graduate Student Individual Project: The university requires that graduate students fulfill requirements beyond those of undergraduates in 400/500 level courses. To this end, graduate students will complete a final paper or research proposal on a topic of their choice to be presented during the final exam period. A final written report formatted as a short journal-style article (3000-5000 words text plus diagrams, figures, tables, and citations) is due no later than the scheduled final exam period: 10:15 Wednesday, March 17, 2021.

Evaluation

Undergraduates: Reading Reflections (40%); Problem-Solving Assignments (40%); Overall Participation (20%)

Graduates: Reading Reflections (30%); Problem-Solving Assignments (30%); Overall Participation (20%); Individual Project (20%)

For all assignments, grading will be based on the extent to which students have fulfilled the requirements of the assignment, and in doing so, exhibit conceptual comprehension, integrative understanding, and critical analysis of the materials covered in the course through critical thinking, reading and writing, and argumentation

Policy Statement on Academic Honesty

All work submitted in this course must be your own (or your own team's) and originally produced for this course. The use of sources (ideas, quotations, paraphrases) must be properly acknowledged and documented. See the UO guide for avoiding plagiarism: libweb.uoregon.edu/guides/plagiarism/students/

The University Student Conduct Code (available at conduct.uoregon.edu) defines academic misconduct. Violations will be taken seriously and are noted on student disciplinary records. If you are in doubt as to the requirements or the nature of specific projects in this regard, please do not hesitate to contact the instructors before you complete the project/activity in question.

Accommodations for students with disabilities

The University of Oregon is working to create inclusive learning environments. If there are aspects of the instruction or design of this course that may result in barriers to your participation, please notify the instructor as soon as possible so that accommodations can be made. You may also wish to contact the UO Accessible Education Center (<http://aec.uoregon.edu/>) in 164 Oregon Hall at 346-1155 or uoaec@uoregon.edu. If you have a documented disability or other health considerations that may affect your class participation, in please make arrangements to meet with the professor as soon as possible. If this is a documented disability, please request that the Accessible Education Center send a letter verifying your disability.

Inclusion Statement

The University of Oregon is a community that values inclusion. We are committed to equal opportunities for all faculty, staff and students to develop individually, professionally, and academically regardless of ethnicity, heritage, gender, sexual orientation, ability, socio-economic standing, cultural beliefs and traditions. We are dedicated to an environment that is inclusive and fosters awareness, understanding, and respect for diversity. If you feel excluded or threatened, please contact your instructor and/or department head. The University Bias Response Team is also a resource that can assist you. Find more information at their website at <http://bias.uoregon.edu/index.html> or by phoning 541-346-2037.

See provisional schedule on the next page.

Provisional Course Schedule – *may be modified based on guest availability and to further incorporate pressing current issues of climate social justice and the 2020 Oregon wildfires*

Week 1: Setting the Stage

- Tu 1/5 Digital Tools for Social Resilience
- Th 1/7 The Roles of Biodiversity and Ecosystems in Climate Adaptation

Week 2: Laying the Groundwork

- Tu 1/12 Imaging Adaptation - How to Know It When You See It
- Th 1/14 Risk, Uncertainty & Leverage Points

Week 3: Building Bridges

- Tu 1/19 Ecosystem Resilience and Restoration
- Th 1/21 Adapting to Unprecedented Wildfire

Week 4: Food Production Systems

- Tu 1/26 A Human Ecology Approach to Food and Climate Change
Guest: Robert Dyball, Senior Lecturer; Fenner School of Environment and Society, Australian National University, Canberra, Australia
- Th 1/28 Food Production Charrette

Week 5: Community Visioning

- Tu 2/2 Envisioning a 'Living' City
Guest: Steven Ames, Futures Planner; NXT Consulting Group, Bend | Portland, OR
- Th 2/4 Community Planning Charrette

Week 6: Coastal Resilience

- Tu 2/9 Line in the Sand: Case Studies in Coastal Resilience
Guest: Michael Geffel, Visiting Professor; Landscape Architecture, Univ. of Oregon
- Th 2/11 Coastal Resilience Charrette

Week 7: Bioregional Planning

- Tu 2/16 Applied Bioregional Design
Guest: Davidya Kasperzyk, Architect and Bioregional Planner; Principal, A Northwest Collaborative, Seattle WA
- Th 2/18 Bioregional Planning Charrette

Week 8: Resilient Cities

- Tu 2/23 Urban Design Strategies for Cooler Cities
Guest: Linda Corkery, Professor; Landscape Architecture, University of New South Wales, Sydney, Australia
- Th 2/25 Urban Design Charrette

Week 9: Tying Together the Pieces of the Puzzle

- Tu 3/2 Adaptation Design and Planning in China
Guest: Hu Jie Professor; Landscape Architecture, Tsinghua University, Beijing, China
- Th 3/4 Course Wrap Up and Reflections

Week 10: No Class – Landscape Architecture Studio Reviews