

## ***LA 494/594 Landscape Planning and Design Studio***

### **Sustainable Human Settlements:**

**The challenges of planning for climate change, population growth and wildfire in the Eugene-Springfield wildland-urban interface**

Climate



Urbanization



Biodiversity



Wildfire



**Department of Landscape Architecture • University of Oregon • Fall 2012**

**4<sup>th</sup> Floor Studio, Lawrence Hall, MWF 1-5 p.m.**

**McKenzie 101 computer lab, MW 1-2 p.m., F 1-5 p.m.**

**Bart Johnson / Rob Ribe / Gwynne Mhuireach**

#### ***Overview***

As landscape architects we learn that broad design principles must be adapted to the unique conditions of real landscapes and the people who live in them. In this studio we will investigate how climate change may affect the livability and environmental conditions of a landscape already undergoing rapid change due to urbanization and ecological succession, and how we can help communities define and explore the challenges and choices they face in planning for their future.

#### ***Course Goals***

Landscape designers and planners increasingly need to be “climate literate” if they are to help humanity make informed choices for its future. There is an emerging scientific consensus that society must not only work to reduce the degree of future climate change, but to adapt to climate change that is already occurring. It is also important that these needs become embedded in the way we live, engage with the land, and each other.

In this studio we will explore:

- The challenges of planning in the face of the uncertainties of climate change and human decisions, particularly for a landscape in primarily private ownership
- The use of simulation models as planning tools to help explore and test the potential strengths and limitations of different policy approaches to spatial planning
- The use of an alternative futures planning approach to engage different types of stakeholders in discussions about desired futures and the ways to achieve them

### ***Planning and Design Problem***

We will investigate the relationships between future settlement patterns, land management and the ecological and social conditions of an 815 km<sup>2</sup> (315 mi<sup>2</sup> or ~200,000 acre) study area to the south and east of the Eugene-Springfield metropolitan area in the lowlands and foothills of Oregon's Willamette Valley. The studio will be organized in teams of 3-5 students, each team exploring, at a range of spatial and temporal scales, different possible futures for the study area, and the influence of these futures on the spatial organization, ecological functions and social qualities of this landscape for current and future residents.

An overarching goal of this studio is to demonstrate that real choices are made everyday that affect the long-term viability of human settlements and the biotic and abiotic systems on which they depend; to clarify the opportunities for grassroots definition of desirable future landscape conditions and to lay out ways to achieve these conditions; and to articulate the effects of different landscape patterns and management practices on key ecological functions.

### ***Course Structure***

The studio will be comprised of three main phases:

*In the first phase*, students will learn about the study area landscape and its people, and work in teams to confront key planning choices for accommodating projected human population growth and the uncertainties of climate change in relation to wildfire risk. They will use the simulation model Envision (<http://envision.bioe.orst.edu/>) to explore and test policies that could guide urban and rural development over the coming 50 years. In this phase each team will produce a set of Envision policies intended to reliably produce desired outcomes in the face of future uncertainties.

*In the second phase*, students working in "theme teams" will focus on different quality of life issues (e.g., livability, safety from wildfire, wealth production, and biodiversity conservation) and devise 'stress tests' and evaluative metrics that will be used to test the robustness of each team's policy set to future uncertainties. The results will be used to help students modify their policy sets.

*In the third phase*, students will use what they have learned from the landscape-scale phases to explore and represent how future plans might be implemented over time at the site scale across an urban-rural-wildland gradient. Each team will select from a list of potential spatial conditions a representative, spatially defined area to resolve a small set of selected issues that require site-scale interventions to fulfill landscape-scale intentions in these different contexts. In particular, this will afford the opportunity to build bridges between landscape-scale climate adaptation and sustainable/regenerative design practices.

*Techniques*: the course will employ fieldtrips, digital tools, and faculty and guest lectures to support team and individual student design and planning projects. Students will gain experience in how to sift through and synthesize relevant, expert-based information to support the development of well-informed landscape plans.

*Facilities and student computer requirements*: we will use the fourth floor Lawrence Hall studio and will have scheduled time available in the Millrace 101 computer lab for individual, team and instructional work. Each student will need to have access in studio to either a) a 64-bit Windows-based PC, or b) a Macintosh with Bootcamp (comes with OS X) and Windows 7 (\$95 at the Duckstore). This is necessary to run Envision, the simulation software we will use. (*You may be able to run Envision on a Mac using Parallels, but our experience is that it will be much too slow*). You must have administrative privileges on the computer to install the software. Contact Bart if you have questions or concerns.

### ***Learning 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 joint challenges of climate change and urbanization.

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

- Identify important potential interactions and feedbacks between climate change, ecosystem change and human decisions in light of uncertainties about how the future may unfold
- Recognize key linkages between urbanization, biodiversity planning, and land use policies and use them as the foundation for adaptive responses to climate change via strategies of resistance, resilience, and facilitation
- Understand and communicate the difference between climate change adaptation and climate change mitigation in the context of spatial settlement patterns and urbanization, and link these concepts to design practices intended to confer long-term system sustainability
- Apply transferable tools for exploring and communicating the opportunities and potential consequences of different land use and management choices on the long-term livability of a large landscape
- Assess alternative planning approaches to wildfire risk mitigation and communicate how uncertainties influence risk management to diverse stakeholders
- Describe and critique the role of simulation models in exploring landscape change and alternative futures for coupled natural/human ecosystems
- Be able to translate the implications of landscape-scale planning decisions into characterizations of the qualities of life that might be achieved at the scales of daily human experience

### **Studio Products**

#### ***By the end of the term, students will have:***

- Developed, tested and refined a set of policy options to guide urbanization, biodiversity conservation and/or fire hazard management under climate change, accompanied by supportive documentation of the results of their investigations
- Devised site-scale interventions that support and further resolve landscape planning goals, and represent these through digital and analog tools in ways that help people who live in this landscape, as well as policy makers and land managers who work with them, understand the qualities of life and human experience they would entail.

### **Expectations and Grading**

- Like all UO Landscape Architecture studios, this is a Pass/No Pass course. Unlike many other courses, most of the work will be done in teams of 3-5 students. Please be advised that we will expect you to have formed teams of this size, in which you will remain for the duration of the term, by *Wednesday September 26*. Unless otherwise stated, you will conduct all work requested in these teams. Also, as a studio student at this curricular level, you are expected to take increasing responsibility for your own education. This has some bearing on our expectations, which are set forth below.
- All students are expected to attend studio from 1-5 MWF and to conduct a substantial portion of their work in the studio environment. Because regular team/studio meetings will be an

indispensable part of the course, attendance is critical to studio success. There will be only rare exceptions to this policy.

- All students are expected to complete work as described in written problem statements on time and in full. Late work will have an effect on a student's evaluation. Emergencies and other compelling circumstances will, of course, alter this policy.
- All students are expected to attend and present at mid-term and final reviews, as well as all studio pin-ups and desk crits.
- All students are required to attend an exit interview, lasting approximately 20-30 minutes with one of the instructors at the conclusion of studio, and during either review or finals week.

*A final note:* There are multiple, sometimes overlapping, tracks we will pursue over the course of the studio. The first is to help us "tool up" on relevant issues in the study area, with special emphasis on understanding the concerns of people who live there. The second is using the information we glean from this and other sources to explore and test both broad and detailed visions for future land use that meet people's needs and maintain ecological functions in the face of multiple stressors. This multi-track approach may lead to an occasionally schizophrenic quality to the studio, particularly during the weeks prior to mid-term review. We acknowledge the need to coordinate these different tracks, and welcome your suggestions for improving coordination.

### **Academic misconduct**

The University Student Conduct Code (available at [conduct.uoregon.edu](http://conduct.uoregon.edu)) defines academic misconduct. Students are prohibited from committing or attempting to commit any act that constitutes academic misconduct. By way of example, students should not give or receive (or attempt to give or receive) unauthorized help on assignments or examinations without express permission from the instructor. Students should properly acknowledge and document all sources of information (e.g. quotations, paraphrases, ideas) and use only the sources and resources authorized by the instructor. If there is any question about whether an act constitutes academic misconduct, it is the students' obligation to clarify the question with the instructor before committing or attempting to commit the act. Additional information about a common form of academic misconduct, plagiarism, is available at [www.libweb.uoregon.edu/guides/plagiarism/students](http://www.libweb.uoregon.edu/guides/plagiarism/students).

### **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, which 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 Disability Services in 164 Oregon Hall at 346-1155 or [disabsrv@uoregon.edu](mailto:disabsrv@uoregon.edu)

### **Inclusion Statement**

The School of Architecture and Allied Arts 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.