

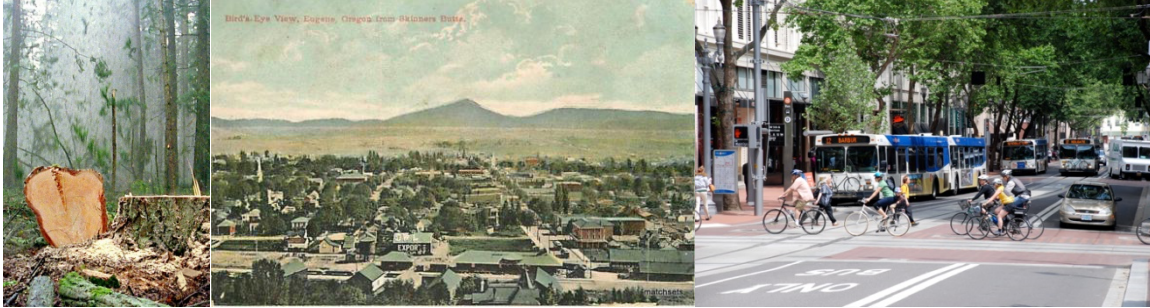
# LA 410/510 Urban Sustainability

CRN: 16644 (undergrad); 16645 (grad) 4 credits

TTh 8:00-9:50 am Fall 2016

Lawrence 231

Instructor: Leslie Ryan [lryan@uoregon.edu](mailto:lryan@uoregon.edu)



*At its core, the language of sustainability is a way of referring to the long-term dependence of human and non-human well-being on the natural world, in the face of evidence that human activities are altering, damaging, and disrupting the natural systems on which we and other species fundamentally rely.<sup>1</sup>*

Sustainability has emerged as the dominant framework for thinking about the present and future of cities. The 1987 Brundtland Report linked sustainability to development in a way that placed development in the context of social, ecological, and economic justice, and so included the necessity of caring for spatially and temporally distant people and places in the process of how and why we make decisions today. The broader context of justice and caring can be seen in what have been called the three pillars of sustainability: social sustainability, ecological sustainability, and economic sustainability.

This course examines strategies and approaches to address urban sustainability challenges and opportunities, and explores applications of sustainability principles through case studies, field observations, and interviews. Urban sustainability is both a practical (measurable) and utopian (imaginary) project. The inclusion of the value-laden aspects of equity and empathy for distant, even non-human, others complicates the transition to sustainable cities. How can we design and plan for urban density AND provide land where stormwater can percolate or food can be produced? Who works in AND lives with the (green) factory or the wind farm? Urban sustainability explores how we should live with each other in a world that is rapidly urbanizing and, in the process, creating divisions between the urban landscapes we inhabit and the rural, distant landscapes that support us. The transition to sustainability asks us to design, plan, and manage our urban environments as if future generations mattered, as if everyday life of people in the city mattered, and as if ecosystem well-being mattered.

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<sup>1</sup> Curren, Randall. (2011). Toward an ethic of sustainability. NPR 13.7 Cosmos and Culture: Policy. Nov 1, 2011.

## Learning objectives

At the conclusion of this course, you should be able to:

- Identify an array of opportunities and constraints for a transition to urban sustainability.
- Gain knowledge of strategies and approaches for considering, measuring, designing, and building a sustainable urban environment.
- Demonstrate critical thinking through participation in discussions and reading responses.
- Articulate the reasons urban sustainability is fundamentally inclusive of individual, social, and environmental well-being.

## Required textbook

Wheeler, Stephen M., and Beatley, Timothy. (2014). *The Sustainable Urban Development Reader*, 3<sup>rd</sup> edition. New York, NY: Routledge.

Other readings draw upon a range of sources and disciplines. They will be available either on Canvas in PDF format or online.

## Course format

The course is structured on lectures, readings, videos, group discussions, field observations, and student presentations. Students are required to complete all assigned readings/viewings PRIOR to the class meeting in which they are listed on the schedule. Students will be asked to prepare a response to questions posed by each set of readings/viewings. These will be due at the beginning of class and used to direct group discussions. Graduate students are assigned additional readings, as noted in the course schedule. Undergraduate students are encouraged to read these additional sources, but it is not required to fulfill course requirements.

## Course schedule (draft)

### 09.27 Course overview

Developing a framework for understanding and implementing urban sustainability

### 09.29 Roots of urban sustainability

Key topics: Defining urban sustainability; ecological urbanism; sustainable development; Brundtland Report; limits to growth

Reading:

- Wheeler & Beatley, chapters 7, 12
- Du Pisani, Jacobus A. (2006). Sustainable development – historical roots of the concept. *Environmental Sciences*, 3(2): 83-96.

Graduates also read:

- Mostafavi, Mohsen. (2010). Why ecological urbanism? Why now? *Harvard Design Magazine*, 32(1).

Assigned: #1. Walking survey (due 10.04)

#### 10.04 Scale and systems

Key topics: City as a sustainable ecosystem; scaling up/down; Ecological Footprint; carrying capacity; CHANS; long now and big here

Reading:

- Wheeler & Beatley, chapter 49
- Newman, Peter, and Jennings, Isabella. (2008). Modeling cities on ecosystems. In *Cities as Sustainable Ecosystems: Principles and Practices*. Washington, DC: Island Press, 92-142.

Video:

- Griffiths, Saul. (2009). Climate Change Recalculated. *The Long Now Foundation* seminar video. <http://longnow.org/seminars/02009/jan/16/climate-change-recalculated/>

Graduates also read:

- Rees, William E. (2010). Getting serious about urban sustainability: Eco-footprints and the vulnerability of 21<sup>st</sup> century cities. In T. Bunting, P. Fillion and R. Walker (eds), *Canadian Cities in Transition: New Directions in the Twenty-first Century*. Toronto: Oxford University Press, 70-86.

Due: #1. Walking survey

Assigned: #2. COULD/DO ecological footprint (due 10.06)

#### 10.06 Measures and indicators

Key topics: Baselines; indicators for sustainability; approaches to measurement; BMPs

Readings:

- Wheeler & Beatley, chapters 37, 48 (plus study chart page 398)
- Leonard, Annie. (2013). Moving from individual change to societal change. In Worldwatch Institute, *State of the World 2013*. Washington, DC: Island Press, 244-252.

Skim through and familiarize yourself with basic concepts:

- *SITES v2 Rating System for Sustainable Land Design and Development* (2014). [https://www.asla.org/uploadedFiles/CMS/AboutJoin/Copy%20of%20SITESv2\\_Scorecard%20Summary.pdf](https://www.asla.org/uploadedFiles/CMS/AboutJoin/Copy%20of%20SITESv2_Scorecard%20Summary.pdf)
- Michaelson, Juliet, Mahoney, Sorcha, and Schifferes, Jonathan. (2012). *Measuring Well-being: A Guide for Practitioners*. London, UK: new economics foundation.

Video:

- Tobgay, Tshering. (2016). This country isn't just carbon neutral - it's carbon negative. TED Talk.

Graduates also read:

- Maniates, Michael F. (2001). Individualization: Plant a tree, buy a bike, save the world? *Global Environmental Politics*, 1(3): 31-52.

Due: #2. COULD/DO ecological footprint

#### 10.11 Sustainability and climate plans for global cities

Key topics: International sustainable development; climate adaptation and action plans; C40 cities; City of 7 Billion

Readings:

Readings will be specific to individual study groups, and provided by instructor. Sustainability/climate plans will be examined for cities and nation states such as:

- Addis Abba, Albania, Austin, Copenhagen, Guangzhou, Johannesburg, London, Medellin, Melbourne, Mexico City, New York City, Singapore, Tuvalu, Vancouver...

Assigned: #3 Interview (due 10.27)

### 10.13 Urban resiliency

Key topics: Resiliency, redundancy; mitigation and adaptation; risk, uncertainty; post-industrial landscapes

Readings:

- Wheeler & Beatley, chapter 15
- Ahern, Jack. (2013). Urban landscape sustainability and resilience: The promise and challenges of integrating ecology with urban planning and design. *Landscape Ecology*, 28: 1203-1212.
- Hamin, Elisabeth M., and Gurran, Nicole. (2009). Urban form and climate change: Balancing adaptation and mitigation in the U.S. and Australia. *Habitat International*, 33:238-245.

Graduates also read:

- Walker, Brian, and Salt, David. (2006). Introduction from *Resilience thinking: Sustaining ecosystems and people in a changing world*. Washington, DC: Island Press, 1-14.

Video:

- Tufts ENVS. (2012). *Love Canal: An environmental disaster*.  
<https://www.youtube.com/watch?v=3iSFgZ-SlaU>
- On the 2011 tsunami in Fukushima [https://www.youtube.com/watch?v=lm\\_YZ3AZ4IE](https://www.youtube.com/watch?v=lm_YZ3AZ4IE)

### 10.18 Eutopia

Key topics: New Urbanism; informal urbanism; porosity, POPOS, passages

Reading:

- Wheeler & Beatley, chapter 16
- Sorkin, Michael. (2009). Eutopia now! *Harvard Design Magazine*, 31: 6-21.
- Robinson, Kim Stanley. (2013). Is it too late? In Worldwatch Institute, *State of the World 2013*. Washington, DC: Island Press, 374-380.

Video:

- *The Truman Show*. (1998). Peter Weir, director

### 10.20 Ecotopia

Key topics: Speculative cities; eco-cities; bioregionalism ; future models

Reading:

- Wheeler & Beatley, pp. 478-9 + chapter 62; pp. 502-504, 520-525, 537-538 (eco-village models)
- Weisman, Alan. (2007). The city without us. In *The World Without Us*. New York, NY: Thomas Dunne Books, 24-46.
- Alberti, Marina. (2016). *Cities That Think Like Planets*. (excerpt)
- Pezzoli, Keith. (2013). Bioregionalism. In J. Adamson, W. A. Gleason, and D. N. Pellow (eds), *Keywords for Environmental Studies*. New York, NY: New York University Press, 25-28.

Assigned: #4 Net Zero presentations (graduate students only – due 11.10)

### 10.25 Field trip to Roosevelt Middle School: de/construction

#28 bus leaves from UO Station South at 8:07 am.

Reading:

Familiarize yourself with the basic categories and strategies for measuring sustainable design and demolition practices as explained in the following documents:

- Guy, Brad, and Nicholas Ciarimboli. (n.d.). *DfD: Design for Disassembly in the Built Environment*. King County, WA.  
[https://your.kingcounty.gov/solidwaste/greenbuilding/documents/Design\\_for\\_Disassembly-guide.pdf](https://your.kingcounty.gov/solidwaste/greenbuilding/documents/Design_for_Disassembly-guide.pdf)

- Raimi + Associates. (n.d.). *A Citizen's Guide to LEED for Neighborhood Development: How to Tell if Development is Smart and Green*. US Green Building Council.  
[https://www.nrdc.org/sites/default/files/citizens\\_guide\\_LEED-ND.pdf](https://www.nrdc.org/sites/default/files/citizens_guide_LEED-ND.pdf)

## 10.27 Sustainable Eugene

Key topics: 20 minute neighborhood; sustainable consumption; urban mobility

Reading:

- Wheeler & Beatley, chapters 20, 21, 22
- SCORAI. (2014). The Role of Cities in Advancing Sustainable Consumption ("Eugene Memorandum"). Workshop Proceedings, Oct 29-Nov 1, 2014, Eugene, OR. <http://www.eugene-or.gov/2691/Sustainable-Consumption-Workshop>
- City of Eugene. (2010). Land use and transportation. In *A Community Climate and Energy Action Plan for Eugene*, 27-35.

Study and become familiar with:

- City of Eugene. 20-minute Neighborhood. <https://www.eugene-or.gov/506/20-Minute-Neighborhood>

Due: #3 Interviews

Assigned: Final project: A proposal for a practical utopia. (due Wed., Dec. 7<sup>th</sup> for 8 am pinup)

## 11.01 Energy and environment

Key topics: Renewable energy; green economy; challenges of scale and place

Reading:

- Wheeler & Beatley, chapter 27
- Kolbert, Elizabeth. (2008). Island in the wind: A Danish community's victory over carbon emissions. *The New Yorker*, July 7.
- Woods, Michael. (2003). Conflicting environmental visions of the rural: Windfarm development in Mid Wales. *Sociologia Ruralis*, 43(3): 271-288.
- Mulvaney, Dustin. (2014). Solar energy isn't always as green as you think. *IEEE Spectrum: Technology, Engineering, and Science News* online, August 26.

Study and become familiar with:

- OMA Roadmap 2050 for Eneropa. <http://oma.eu/projects/roadmap-2050>

## 11.03 Food and soil

Key topics: Urban agroforestry; urban foodshed; soil health and carbon; food equity

Readings:

- Wheeler & Beatley, chapter 45
- Clark, Kyle H., and Nicholas, Kimberly A. (2013). Introducing urban food forestry: A multifunctional approach to increase food security and provide ecosystem services. *Landscape Ecology*, 28: 1649-1669.
- City of Eugene. (2010). Food and agriculture. In *A Community Climate and Energy Action Plan for Eugene*, 22-26.

Videos:

- Steel, Carolyn. (2009). *How food shapes our cities*. TEDGlobal Talk. [https://www.ted.com/talks/carolyn\\_steel\\_how\\_food\\_shapes\\_our\\_cities?language=en](https://www.ted.com/talks/carolyn_steel_how_food_shapes_our_cities?language=en)
- Byck, Peter. (2014). *Soil carbon cowboys*. <http://soilcarboncoalition.org/soil-carbon-cowboys>
- *Dirt! The Movie*. (2009). Online access available through UO library

## VOTE!!!!

### 11.08 Water and waste

Key topics: Water and watersheds; urban water and waste management; green infrastructure; embodied water

Readings

- Wheeler & Beatley, chapters 28, 29
- Postel, Sandra L., and Thompson, Jr., Barton H. (2005). Watershed protection: Capturing the benefits of nature's water supply services. *Natural Resources Forum*, 29, 98-108.
- D'Elgin, Terisha. (2016). *The Man Who Thought He Owned Water*. University Press of Colorado. (excerpt).

Study and become familiar with:

- Jurries, Dennis. (2003). *Biofilters (bioswales, vegetative buffers & constructed wetlands) for storm water discharge pollution removal*. State of Oregon, Dept. of Environmental Quality.

Graduates also read:

- Illich, Ivan. (1985). *H2O and the Waters of Forgetfulness*. (any edition).

### 11.10 Net Zero/Net Positive

Presentations by graduate students on Net Zero principles and practices (Net Zero Energy, Water, Waste, Carbon, Materials, Stormwater Runoff, Deforestation, Landscape Degradation...)

Reading for undergraduates:

- Selzter, Ethan, et al. (2010). *Making Ecodistricts: Concepts and methods for advancing sustainability in neighborhoods*. (read Executive Summary, pp 1-5, and Ch. 4 Measuring with meaning, pp. 98-119. Skim through the whole document and familiarize yourself with basic concepts)

Due: Presentations by graduate students

### 11.15 Urban greens

Key topics: Urban heat island; urban forest; public open space

Reading:

- Wheeler & Beatley, chapter 23
- Clark, James R., Matheny, Nelda P., Cross, Genni, and Wake, Victoria. (1997). A model of urban forest sustainability. *Journal of Arboriculture*, 23(1): 17-30.
- Colding, Johan, and Barthel, Stephan. (2013). The potential of 'Urban Common Greens' in the resilience building of cities. *Ecological Economics*, 86: 156-166.
- Stone, Jr., Brian. (2012). "Prologue: The canicule." In *The City and the Coming Climate: Climate Change in the Places We Live*. New York, NY: Cambridge University Press, 1-15.

### 11.17 Wildscapes

Key topics: Urban wilderness; rewilding; design and planning for more-than-human others

Reading:

- Wheeler & Beatley, chapter 24
- Muller, Brook. (n.d.). Ecological design as performance of an urban nature. Center for Humans and Nature. [www.humansandnature.org](http://www.humansandnature.org)
- Del Tredici, Peter. (2010). Spontaneous urban vegetation: Reflections of change in a globalized world. *Nature and Culture*, 5(3): 299-315.
- Sallinger, Bob. (2012). Souvlaki coyote and other tales of urban wildlife. The Nature of Cities blog. <http://www.thenatureofcities.com/2012/09/11/souvlaki-coyote-and-other-tales-of-urban-wildlife/>

Video:

- *The Salmon Forest*. (2001). Caroline Underwood, director. Online access available through UO library.

## 11.22 Ethics of the sustainable urban environment

Key topics: Environmental ethics; rights of nature movements; social equity; aesthetics; advocacy

Reading:

- Wheeler & Beatley, chapter 54
- King, Roger. (2003). Toward an ethics of the domesticated environment. *Philosophy & Geography*, 6:1, 3-14.

Graduates also read:

- Stone, Christopher D. (1974). Should Trees Have Standing? Toward Legal Rights for Natural Objects. Los Altos, CA: William Kaufmann, Inc., Part I.

Videos:

- Kimmerer, Robin Wall. (2012). Reclaiming the honorable harvest. Tedx Sitka

## 12.07 Presentations of final projects

There is no final exam in this course, however final projects will be pinned up and discussed during our scheduled final exam time (8 – 9:50 am Wednesday, but note that the date is a Wednesday).