

Sustainable Communities: ARCH 3500/ARCH 5500/GSVS 3559

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Morven Summer Institute / May 30 - June 10, 2017 / 10:00 am – 3:30 pm / 3 credits /170207 DRAFT syllabus



Overview: This intensive short course will investigate the principles and triple bottom line of sustainable community development—environmental quality, economic health, and social equity—as reflected in buildings, rural landscapes, towns, and cities. How can we improve our quality of life and wellbeing both today and for future generations, while living within ecosystem limits (one planet living)? We will examine how communities can become more sustainable and improve conditions such as air and water quality, energy sources and uses, food supply, mobility, social equity, aesthetics, and a sense of place. We will study a range of innovative strategies for sustainable land use, rural landscape conservation, ecological design, urban agriculture, water and waste management, green architecture and urban design, local economic development and the sharing economy, alternative transportation models, and social equity planning. Through case studies and class activities, we will learn how communities can achieve more sustainable development through planning, design, public policy and education. We will also learn about tools for assessing the impact of various projects, programs, and policies. We will visit Central Virginia communities that physically exemplify innovative resilient strategies and demonstrate key course concepts.

Course Objectives

- To understand the intentions and implications of sustainable communities, as well as indicators for measuring success.
- To review and understand current policy, planning, and design strategies to promote sustainable urban development.
- To examine implemented sustainable development objectives through case study and direct field experience.
- To explore, on a personal and experiential level, what it means to live a sustainable lifestyle.

Evaluation

40% Individual Reading Responses: Write a concise, one-page response (approx.. 500 word) to the assigned readings before class and in preparation for our daily discussions. Compare and contrast a theme that links the readings. 8 RR x 5% = 40%.

40% Sustainable Charlottesville Team Project: This collaborative study will demonstrate the application of theory to a real world setting. Each team will examine one of three mixed-use corridor districts in Charlottesville: West Main Street, JPA, and Ivy Road. We will explore how Charlottesville, and each particular type of area, can be more sustainable. What are the strengths, weaknesses, opportunities and threats to each district? What would we have to do differently to make Charlottesville more like Copenhagen, Portland, or other model sustainable communities? How could we avoid making it more like Northern Virginia, Hampton Roads, or other sprawling communities? What strategies are translatable and which are only possible in a particular size or culture or climate? Consider a wide range of issues, including urban form, density of population and built form, land use zoning, building types, infrastructure systems (transportation, energy, water), food systems, land conservation, historic preservation, equity and social justice, and public health. The study should include experiential observations, photographs, field data, and analytical summary of the current district, along with recommended strategies to achieve a more sustainable community.

20% Class Participation + Attendance: This ten-day course is reading-intensive, discussion-driven and experiential. Attendance, engagement with readings and discussions, and contribution to the learning of others is essential. It is your *responsibility* to add energy and share your thoughtful, reflective perspectives and questions to our group activities.

Course Materials: All readings are available on the “resources” section of the class Collab site.

1 Tu, 5/30 The Global Emergence of the Sustainability + Sustainable Development Concepts

AM + Lunch Welcome Event: Morven Overview and Tour, Morven Kitchen Garden tour and Catered Picnic from Salt

PM Overview + Discussion: Does green = sustainable? “Sustainability cannot be simply a green or environmental concern. A truly sustainable society is one where wider questions of social welfare and economic opportunity are integrally related to environmental limits imposed by supporting ecosystems” (Agyeman et al. 2002, 78). We will focus on 4 conditions of the move towards “just sustainabilities”: improving our quality of life and wellbeing; meeting the needs of both present and future generations (intra-generational and intergenerational equity); justice and equity in terms of recognition, process, procedure, and outcome; and living within ecosystem limits (‘one planet living’). We’ll start with the concepts and history of Sustainability and the Anthropocene, then discuss the importance of all our design decisions about the world we create.

Sample, I. (2014) “Anthropocene: Is this the New Epoch of Humans?” *The Guardian*.

Vaughan, A. (2016) “Human Impact has Pushed Earth into the Anthropocene, Scientists Say,” *The Guardian*.

What is the Anthropocene? Why is this concept relevant to sustainable communities?

Van der Ryn, S. and Cowan, S. (1996) “Sustainability and Design,” *Ecological Design*. Island Press: 3-16.

What is Design and how does it relate to sustainability? What are 2 basic approaches to sustainability described in the reading?

What is the relationship between them and which do you think is preferable? Why is the machine metaphor that dominated in the 20th century problematic? What about this idea of the “ecological unconscious”? Please come to class with examples for each of David Orr’s four characteristics of Ecological Sustainability.

Rockstrom, J. et al. (2009) “A Safe Operating Space for Humanity,” *Nature* 461, 472-475.

UN (2016) *Sustainable Development Goals*. <http://www.un.org/sustainabledevelopment/sustainable-development-goals/>

UN (2015) *What is Sustainable Development*. 2 min. <https://www.youtube.com/watch?v=3WODX8fyRHA>

Marks, N. (2012) *Happy Planet Index*. 2 min. <https://www.youtube.com/watch?v=sZPYI8BfnBs>

Raworth, K. (2012) *Introducing 'The Doughnut' of Social and Planetary Boundaries for Development*. Oxfam Intl. 4 min. <https://www.youtube.com/watch?v=PCAx3TG8LkI>

2 W, 5/31 Ecological Design + Understanding Urban Form

DUE: RR 1

AM Discussion: What is Ecological Design? Wheeler described 9 directions for urban sustainability. Are there others? How we might move towards these goals? Think of examples for Characteristics of Conventional + Ecological Design as shown in Table 1.

Van Der Ryn, S. and Cowan, S. (1996) “Introduction to Ecological Design,” *Ecological Design*. Island Press: 33-48.

Wheeler, Stephen (1998). “Planning Sustainable and Liveable Cities”

Lunch: BYO

PM Lecture + Discussion: We’ll examine the concept of the city as described by Mumford and Lynch’s elements of the City. We’ll also discuss how to go about exploring and analyzing your Charlottesville district in preparation for our fieldtrip on Wednesday.

Mumford, L. (1937) “What is a City”

Lynch, K. (1960) “The City Image and its Elements,” *The Image of the City*, reprinted in *The City Reader*: 98-102.

Gehl, J. (2015) *The Human Scale*. trailer 3 min. <https://www.youtube.com/watch?v=BxywJRJVzJs>

Additional References:

HUD/DOT/EPA (2013) *Partnership for Sustainable Communities* <http://www.sustainablecommunities.gov/mission/livability-principles>

Institute for Sustainable Communities. <http://www.iscvt.org/impact/definition-sustainable-community/>

Gehl, J. (2013) *In Search of the Human Scale*. 21 min. <https://www.youtube.com/watch?v=Cgw9oHdfJ4k>

Curitiba: How a Brazilian City Has Revolutionized Urban Planning (2007) 15 min. <https://www.youtube.com/watch?v=hRD3l3rIMpo>

3 Th, 6/1 The Land Ethic, Beauty + Aesthetics

DUE: RR 2

AM Discussion: We will discuss Aldo Leopold's Land Ethic concept and how it relates to beauty and creating sustainable communities? Why is beauty important to sustainable communities? What is the Aesthetic Imperative? UVA Artist and Ethicist, Prof. Sanda Iliescu will join us to discuss the chapter Abundance from her forthcoming book.

Leopold, A. Land Ethics in "Into Terra Incognita," J. Callicott. *The Essential Aldo Leopold* (2006): 296-313.

Iliescu, S. (2017 forthcoming) "Abundance," *The Figure/Ground Problem: Essays for Artists and Architects*.

Hosey, L. (2012) "The Sustainability of Beauty" & "The Aesthetic Imperative," *The Shape of Green: Aesthetics, Ecology & Design*: 1-29.

"An Agro-Ethical Aesthetic:" A Conversation with Wendell Berry, 110 min.
<https://www.youtube.com/watch?v=Az0ZSUWVxEU>

Lunch: BYO

PM FIELD TRIP: Urban exploration of 3 Charlottesville Districts: West Main Street, JPA, Ivy Road

4 F, 6/2 Place + Culture

DUE: RR 3

AM Discussion: What is role of the global and the local in culture and place formation? What is the difference between place and space (non-place)? Does place matter? How does what we experienced during our Charlottesville fieldtrip relate to these concepts? What places did we find? Where were the spaces?

Tuan, Yi-Fu. (1977) *Space and Place: The Perspective of Experience*: 3-7.

Agyeman, J. (2013) "Space and Place," *Introducing Just Sustainabilities: Policy, Planning, and Practice*: 96-135.

Lunch: BYO

PM Discussion: Discuss place-making as the process by which local communities help shape the spaces and places they inhabit. Do all people have equal access to space and place? Who gets to define place? Are 'Complete Streets' always complete? We will look at the possibilities and contradictions inherent in place-making. As cities become more diverse and heterogenous, how do we think about, design, and bring about more sustainable communities? We need to move towards 'intercultural' communities and societies where difference and diversity are seen as advantages, not problems. Environmental justice and social equity are part of this discussion.

Kent, F. (2008) "Place Making around the World," *Urban Land*, August: 58-65.

Van Der Ryn, S. and Cowan, S. (1996) "Solutions Grow from Place," *Ecological Design*. Island Press: 77-101.

Project for Public Spaces. "What is Placemaking?" http://www.pps.org/reference/what_is_placemaking/

PM FIELD TRIP: 3:30 Chalk Talk and bus to Highland, 4:30 hike to Morven, 6:00 Tent Setup, 6:30 Greenies Catered BBQ dinner

PM CAMP OUT + AM Breakfast

5 S, 6/3 Land Use: Smart Growth, Infill, Conservation Easements + Other Policies

AM Discussion: How can we occupy land more wisely? How does the US “frontier” mindset and Jeffersonian 1785 Land Ordinance gridding of the American West shape out attitudes about land? How is the “American Dream” changing the type of communities that we seek today? How does a neighborhood differ from a subdivision? How can we protect and conserve forests, wetlands, and agricultural land against greenfield development? How can conservation easements, urban growth boundaries (UGBs), smart growth, and transit oriented development (TOD) preserve land and reduce sprawl? What is the role of urban infill? Where does the preservation and adaptive reuse of existing buildings and infrastructure fit in?

Calthorpe, P. (1993) “The Next American Metropolis,” in Wheeler, S. and Beatley, T. (2009) *The Sustainable Urban Development Reader*: 87–98.

Greenbelt Alliance (2008) Smart Infill: 7–15.

The Nature Conservancy (2003) Conservation Easements: Conserving Land, Water and a Way of Life: 1–4.

Lunch: BYO

PM WORK SESSION: Sustainable Charlottesville Project

6 M, 6/5 Energy, Water, Waste + Material

DUE: RR 4

AM Discussion: We will consider more sustainable conservation and technology strategies for intertwined systems of energy, water, waste, and material use ranging across scales from the individual building to entire metropolitan regions. Why is “urban metabolism” a valuable model for material and energy flows in cities? Could this model be applied to Charlottesville? What did you learn from the Agropolis, Petropolis, and Ecopolis settlement models? What renewable energy technologies and policies might work for US communities and Charlottesville in particular?

Roseland, M. (2012). “Energy Efficiency and Renewables,” *Toward Sustainable Communities: Solutions for Citizens and their Governments*. New Society Publishers: 113-128.

World Futures Council, Girardet, H. (2010) Regenerative Cities.

Girardet, H. (2014) Creating Regenerative Cities. 24 min. https://www.youtube.com/watch?v=lq_6batv2yE

Lunch: BYO

PM Presentation: The Challenges of Sea Level Rise: the Case of Norfolk
WORK SESSION: Sustainable Charlottesville Project

7 Tu, 6/6 Integrating Sustainable Strategies from Buildings to Communities

DUE: RR 5

AM Presentation/Discussion: Sustainability Architect Michael Petrus will present case studies of several real urban and architectural projects that incorporate the theories and strategies that we’ve learned about in our readings and discussions. He will talk us through the specific process of analysis, decision-making and design.

Video: Terreform One (2014) “Post-Sustainability: New Directions in Ecological Urban Design” 60 min.
<https://www.youtube.com/watch?v=K4rB5VaBhz8>

Lunch: BYO in Japanese Garden

PM: Discussion: We’ll consider the importance of experiential qualities in architecture and community design, including the value of engaging all the senses. The traditional Japanese teahouse at Morven will be our case study.

Papanek, V. (1995) “Sensing a Dwelling,” *The Green Imperative: Natural Design for the Real World*: 75 – 104.

Tanizaki, J. (1933) In Praise of Shadows

AM Discussion: What role could food and urban agriculture play in developing sustainable communities? We'll critically analyze concepts like "local" produce, immigrants and 'new agricultures' in the US, the city of Belo Horizonte, Brazil's revolutionary food policies, permaculture, edible landscapes, beekeeping, and the emerging local food economy in Charlottesville.

Berry, W. (2011) "The Agrarian Standard," *Orion Magazine*.

Ackerman-Leist, P. (2013) "Fields of Energy," *Rebuilding the Foodshed: How to Create Local, Sustainable, Secure Food Systems*

Brooklyn Grange Rooftop Farms <http://www.brooklyngrangefarm.com/> <https://vimeo.com/31853872>

Gotham Greens <http://gothamgreens.com/> <https://www.youtube.com/watch?v=XZYTBDyz3v8>

<https://www.youtube.com/watch?v=Tzs9iTvqAoo>

Singapore Sky Greens <https://www.youtube.com/watch?v=2nFQOkzEjxQ>

<http://permaculturenews.org/2014/07/25/vertical-farming-singapores-solution-feed-local-urban-population/>

Choose one:

Falk, B. / Whole Systems Design. Homestead Resiliency, Food Systems Regeneration, 23 min.

<https://www.youtube.com/watch?v=CKND0131d3g>

Finley, R. A Guerilla gardener in South Central LA, 11 min.

https://www.ted.com/talks/ron_finley_a_guerilla_gardener_in_south_central_la?language=en

Doiron, R. A Subversive Plot: How to Grow a Revolution in your Own Backyard, 19 min.

https://www.youtube.com/watch?v=Ezuz_-eZTMl

Wilson-Rich, N. Every city needs healthy honey bees

https://www.ted.com/talks/noah_wilson_rich_every_city_needs_healthy_honey_bees?language=en

WORK SESSION: Sustainable Charlottesville Project

AM Discussion: A reinvention and revival of sharing in our cities could enhance equity, rebuild community and dramatically cut resource use. With modern technologies the intersection of urban space and cyber-space provides an unsurpassed platform for a more inclusive and environmentally efficient sharing economy and ultimately, more sustainable communities.

Agyeman, J. and McLaren, D. (2015) *Sharing Cities:* 1 - 20.

Latitude. *The New Sharing Economy*

Botsman, R. (2010) *The Case for Collaborative Consumption.* 15 min.

https://www.ted.com/talks/rachel_botsman_the_case_for_collaborative_consumption?language=en

Ellen MacArthur Foundation. *Amsterdam: Exploring the Sharing City.* 32 min.

https://www.youtube.com/watch?v=wwQZhMWg9iw&list=PLXkaQKGhlcw4T_Xy7eLMkkX0sRq6ErThs&index=2

Lifitin, K. (2011) *Seed Communities: Ecovillage Experiments Around the World.* 8 min.

<https://www.youtube.com/watch?v=MtNjZaXDGqM>

Elliott, E. (2015) *Co-housing—Community at its Best.* 10 min. <https://www.youtube.com/watch?v=ef9azOeuCPY>

Lunch: BYO

WORK SESSION: Sustainable Charlottesville Project, 1:00 – 2:00

PM: Biophilic Design: The Architecture of Life (2011)

AM Final Discussion: We will look back over the past two weeks and (maybe) agree on some of the key lessons learned.

Thiele, L. (2013) "Culture + Change," *Sustainability*: 168 – 193.

Maniates, M. (2001) "Individualization: Plant a Tree, Ride a Bike, Save the World?" *Global Environmental Politics* 1:3.

Stoll, S. "No Man's Land," *Orion Magazine*

Lunch: BYO

AM Presentations: each team will present their Charlottesville study (1 hr x 2 teams): 1:00 – 3:00

TEA CEREMONY: 3:30 at Japanese Teahouse