

ENST 788.185 DEEP ECOLOGICAL URBANISM: Ecology, Efficiency, & Ethics in Urban Design
Spring 2013 | Megan Griffith

COURSE DESCRIPTION AND OBJECTIVE

To explore the concepts and principle elements of ecological urban design, providing the student with a clear understanding of the tools and processes available to planners working in urban settings. The course recognizes the difference between ecological design and sustainable design, but appreciates that not only are the two realms complimentary, but are also often contingent upon the other. The student will address the ways in which the human urban environment can or does mirror a natural habitat and ecosystem, identifying efficiency and equity techniques for whole-systems urban design. The course will also focus intently on where other species fit in the urban environment- studying concepts of deep ecology and environmental ethics- recognizing that humans are just one piece of the larger whole and that sustainable urban planning requires consideration of all the minor parts. The goal is to understand, most importantly, how to make a city sustainable and ecological, paying particular attention to adaptive techniques practical for use in existing urban environments, as well as why it is imperative to drive cities in such a direction.

ASSIGNMENTS

-Weekly Blog Posts. Discuss lessons learned, and do one of the following...

- A) Evaluate a relevant case study. Offer a critique, identifying challenges and benefits;
- B) Apply the concepts to an area in Baltimore. Suggest adaptive applications of the recently learned techniques; or
- C) Propose an alternative solution in detail.

-Attend all the Baltimore Office of Sustainability Commission on Sustainability meetings- held on the 1st Tuesday of the month, 4pm @ 417 E. Fayette, 8th Floor.

-Identify existing initiatives in Baltimore City that relate to the concepts of each unit.

-Actively read green/sustainable news blogs.

-Each week, add to a running list of relevant terminology. Include key figures, events, and the schools of thought for each entry.

-Personal Enrichment: Visit as many of Baltimore City's Parks and Environmental Education Centers as possible. Find creative locations in which to conduct the course. Engage in creative expression of study.

MID-TERM

Examine Baltimore's Inner Harbor. Produce a detailed site analysis diagram highlighting existing environmental assets and identifying missing ecological links. Propose locations or sites where ecological elements can be (re-)introduced. Write a 1-2 page paper describing why each decision was made, and how it will benefit the Harbor and/or Baltimore as a whole.

FINAL

Write a paper explaining how existing cities can be adapted with minimal impact to become living, ecological habitats for all living beings. Address concepts from each unit.

UNITS

There are a total of 10 units, to spread across 15 total class days. The first half of the study will explore various theories behind ecological urban design- including the importance of nature, the very human need to be connected to nature, and what cities can learn from nature. The second half of the course will identify design principles related to themes of ecological urban design, and how they are implemented in urban environments.

1. INTRODUCTION: URBAN VS. NATURE

Core Concepts:

- What does the word *sustainable* mean and how does it differ from *ecological*.
- The basics of ecological urban design: who|what|where|when|why|how
- Principle influences on ecological urban design and the need for ecological cities
 - *Brief review of the history of cities: civilized relationship with nature and the beginning of ecological cities*
 - *Address the declining environmental health, climate change, and lessons learned from tragedy*
- Natural versus Urban resiliency

Readings:

1. Ecocities: *The City in Nature*, Chapter 3 (p. 47-74)
2. Readings in Planning Theory: *Green Cities, Growing Cities...* , Chapter 24 (p. 435-456)
3. Environmental Ethics: Part I [selections]- *What is Environmental Ethics; Ethics, Public Policy, and Global Warming*
4. *The World Without Us* [suggested]
5. Added: Orr, David W. "*Four Challenges of Sustainability*"

Morgan Library:

1. Ecological Design | Stacks | GE 170 .V36 1996- Sustainability and Design (p. 3-16) and An Introduction to Ecological Design (p.17-32)
2. Ecology in Ancient Civilizations | Stacks | GF 541 .H83- Environment and Civilization (p.1-6) and Ecology and the Fall of Rome (p.128-140)
3. [Ethics and urban design : culture, form, and environment / Gideon S. Golany.](#)
Stacks | HT166 .G597 1995

Exercise: Begin the class by writing down your initial understanding of how ecological urbanism is defined.

2. DEEP ECOLOGY

We now understand that an ecological city is not the same as a sustainable city. Are humans central to everything or only a part of a whole? Or, are we perhaps central to all life in that it is our purpose to

secure and propagate life (Biotic ethics)? Why is it important to protect ecology? And how can the concept of deep ecology be applied to urban planning?

Core Concepts:

- What is deep ecology?
- Anthropocentric vs. Non-anthropocentric views, and environmental pragmatism
- Ecological justice and environmental ethics
- Ecological Planning; introducing ecological elements into dense urban environments
- Habitat and Species protection/ Ecological Restoration; Biodiversity

Readings:

1. 8 Principles of Deep Ecology
2. Environmental Ethics: *Deep Ecology: A New Philosophy of our Time?* (p. 252-261); *Saving Nature, Feeding People, and Ethics* (p. 463-); *The Big Lie: Human Restoration of Nature* (P.390-397); *Ecological Restoration and the Culture of Nature: A Pragmatic Perspective* (p.398-)

Morgan Library:

1. [Planning for wildlife in cities and suburbs / by Daniel L. Leedy, Robert M. Maestro, and Thomas M. Franklin](#) Stacks | QH541.5 .C6 L4 1978
2. [The Ecological city : preserving and restoring urban biodiversity / edited by Rutherford H. Platt, Rowan A. Rowntree, and Pamela C. Muick.](#) Stacks | HT243 .U6 E26 1994

3. HUMAN NATURE

How and why are people drawn to nature? What are the measured benefits of a human-natural connection? And how should ecology be reintroduced in our urban environments?

Core Concepts:

- Biophilia
- Nature-based spirituality, environmental theology
- Nature Deficit Disorder
- Environmental Psychology, including studies showing increased performance
- Social Justice- cultural sustainability, equal housing, aging in place

Readings:

1. Biophilic Cities: *The Importance of Nature and Wilderness in our Urban Lives* (p.1-16); *The Nature of (in) Cities* (p. 17-44); *Biophilic Cities: What Are They?* (p.45-82)
2. Sustainable Urbanism: *Biophilia*, Chapter 8
3. The Last Child In The Woods
4. Environmental Psychology [suggested]

Morgan Library:

1. [Human identity in the urban environment. Edited by Gwen Bell and Jaqueline Tyrwhitt](#) | Stacks | GF125.B44/1972
2. [Ecology, crime, and delinquency. Edited by Harwin L. Voss \[and\] David M. Petersen](#) | Stacks | HV6150 .V67
3. [Human ecology : the story of our place in nature from prehistory to the present / Bernard Campbell.](#) Stacks | GF41 .C355 1985
4. Hough, Michael. "Design with City Nature: An Overview of Some Issues." P. 40; and Loucks, Orié L.. "Sustainability in Urban Ecosystems: Beyond an Object of Study." P. 49 in *The Ecological City* | Stacks HT 243 .U6 E26 1994

4. LEARNING FROM NATURE

How have our cities traditionally responded to nature? In what ways can we learn from natural systems? Do our urban systems differ from natural systems and cycles? And how could we mimic nature to design a living city?

Core Concepts:

- Biomimicry
- Whole systems and holistic planning
- City as an Ecosystem- web, cycle, colony
- Biomes

Readings:

1. Environmental Ethics: *Value in Nature and Nature of Value* (p.143-153); Part III, the value of nature
2. Ecocities: *The City as an Organism*(p.38-40); *Wilderness and the Wildness of Cities* (P.18-23)
3. Granite Garden: *Designing the Urban Ecosystem* (p.242-262)
4. Design with Nature: *The City: Process and Form* (p.175-)

Morgan Library:

1. [City form and natural process : towards a new urban vernacular / Michael Hough](#) Stacks | HT166 .H665 1989
2. [Cities as sustainable ecosystems : principles and practices / Peter Newman, Isabella Jennings.](#) Stacks | HT241 .N943 2008
3. [The city : patterns and processes in the urban ecosystem / Christopher H. Exline, Gary L. Peters, and Robert P. Larkin.](#) Stacks | HT151 .E9

Listen

- Eco Evolution Podcast: *Evolutionary Design through the Lens of Biomimicry*, 9/30/12, 48:30
- Ecological Urbanism: *Engineering Ecology* (1/8/09)

Online Resources:

- <http://www.urbanhabitats.org/index.html>

- Article: Denver's Living City: <http://www.cooltownstudios.com/2010/02/24/denvers-living-city-block-green-model>

5. SCALE

Human settlement can develop in a range of sizes and scales. Which scales are most detrimental to our planet's health, and which scale is most conducive to sustaining all life-forms on this planet? How does ecological planning vary by scale? And what are the benefits when scale is appropriate?

Core Concepts:

- Scale
 - Sprawl and globalization
 - Bioregions, Ecocities, Ecodistricts, etc.
 - Human Scale
 - Sense of Place

Readings:

1. Sprawl Kills: *Sprawl Shills*, Chapter 1
2. It's a Sprawl World After All: *Introduction*

Morgan Library:

1. [The ecology of place : planning for environment, economy, and community / Timothy Beatley, Kristy Manning.](#) Stacks | HT167 .B43 1997

Watch:

- Itunes-e2: *Portland: A Sense of Place* (4:08, 12/23/08)

Listen:

- Ecological Urbanism: *Panel 4: Ecologies of Scale* (1/8/09)
- Earth Beat: *Mega Cities* (12/2/10)

Online Resources:

- Pattern Cities: <http://patterncities.com/>

Exercise: Understanding all of the concepts discussed so far, imagine and describe the ideal ecological city.

6. URBAN DESIGN AND PLANNING

What innovative settlement patterns resolve to address ecology and sustainability issues? How can urban environments be designed to be more ecological and sustainable? And how is design and form impacted by this type of planning?

Core Concepts:

- Alternative Patterns of Living/settlements

- Arcosanti
- Living City
- Compact Communities Ordinance
- Cohousing
- Transition Town
- Environmental Suitability
- LEED ND
- Sustainable Planning

Readings:

1. Biophilic Cities: *Biophilic Urban Design and Planning* (p.83-130)
2. Eco City Dimensions: *Part One- Eco-City Planning; Ecocity Housing and Urban Design* (Part 4)
3. Landscape Planning: *Introduction and Chapter 1*
4. Environmental Ethics: *Democracy and Sense of Place* (p.500-515)
5. Ecocities: *Tools to fit the Task* (Chapter 10); *What to Build?* (Chapter 7)
6. Rogers, Richard. "Cities for a Small Planet." : Chapter 2: Sustainable Cities (p.25-64)

Morgan Library:

1. [The ecology of land use : a bibliographic guide / Graham L. Trelstad.](#) Stacks | S952 .T73 1994
2. [Integrating city planning and environmental improvement : practicable strategies for sustainable urban development / edited by Donald Miller, Gert de Roo.](#)
Stacks | HT241 .I5825 2004
3. [Reshaping the built environment : ecology, ethics, and economics / edited by Charles J. Kibert ; foreword by Alex Wilson.](#) Stacks | HD255 .R47 1999
4. [Sustainable cities : concepts and strategies for eco-city development / edited by Bob Walter, Lois Arkin, Richard Crenshaw.](#) Stacks | NA9108 .S87 1992

Watch:

- Urbanized, 1hr25m, Netflix
- Itunes-e2: *Affordable Green Housing*(4:46)
- Itunes-e2: *Bogota: Building a Sustainable City*

Listen:

- Eco Evolution: *Paolo Soleri, Arcosanti and the Sustainable Cities*, 10/7/12
- City Talks: *Ethical Living and Choice: Towards a Future Sustainable Sydney* (3 parts, 8/4/09)
- The Preservation Technology Podcast: *Urban Ecology and Green Design* (12:32, 9/29/09)

Online Resources:

- Green Towns: <http://www.greentowns.com/>
- Living Urbanism: <http://livingurbanism.wordpress.com/>

7. GREEN BUILDING

Why are conventional buildings so destructive? In what ways can individual buildings respond to ecology and sustainability concerns? Can they actually function to benefit the environment? How can existing structures be adapted to become “less bad”; is adaptive reuse and design the most efficient response?

Core Concepts:

- Sustainable Architecture and green building
- Adaptive reuse and historic preservation
- Passive/solar construction

Readings:

1. Ecology of Architecture: Chapters 1 and 2 (p.12-69)
2. Earth to Spirit: Chapters 2-4 at the least
3. Sustainable Urbanism: *High Performance Building and Infrastructure* (Chapter 9, p.188-211)

Watch:

- Itunes-e2: *Adaptive Reuse in the Netherlands* (5:03, 12/26/07)

Listen

- The Preservation Technology Podcast: *Sustainability in Historic Preservation* (11:22, 1/6/10)

8. GREEN INFRASTRUCTURE

What are some techniques for bringing ecology and wildlife to the heart of a dense urban environment? How can conventional urban infrastructure systems operate ecologically and sustainably? And what alternatives promote healthier human lifestyles which also have fewer adverse ecological impacts?

Core Concepts:

- Green infrastructure
- Parks, open spaces, and wildlife reserves
- Transportation, access, and mobility
 - Auto-centric cities
 - Green Streets
 - Complete Streets
 - Alternative modes of transportation
- Walkability and connectivity
- Biking and pedestrian mobility

Readings:

1. Walkable City, Jeff Speck
2. Asphalt Nation: Part 3, Car-free
3. Sustainable Urbanism: *Sustainable Corridors* (Chapter 6, p.112-123); *Walkable/Complete Streets* (p.151-156); *Managing Travel Demand* (p.160-165); *Car-Sharing* (p.137-138)
4. Ecocities: *Access and Transportation* (Chapter 6)

Morgan Library:

1. [The greening of the cities / David Nicholson-Lord](#). Stacks | HT169.G7N52/1987
2. [Green urbanism : learning from European cities / Timothy Beatley](#). Stacks | HT241 .B437
2000

Listen:

- City Talks 2009- *Sustainable Streets Parallel Cities* (3 parts, 3/30/09)
- Ecological Urbanism: *Mobility, Infrastructure, and Society* (1/8/09)

Online Resources:

- Pedestrian Data Tips: <http://www.walkinginfo.org/facts/data.cfm>
- People for Bikes: <http://www.peopleforbikes.org/>
- Open Streets Project: <http://openstreetsproject.org/>
- Street Films: <http://www.streetfilms.org/>

9. RESOURCES + POLLUTION

Are cities being reckless with their limited resources? What are some efficient alternatives to resource consumption? How can cities be carbon neutral or have a net zero impact? How are urban activities polluting natural resources outside the city limits? And how can cities reduce their waste?

Core Concepts:

- Energy- renewable resources, carbon footprint, net zero
- Air, Water, Light
 - Light pollution, “Dark Sky Compliance”
- Waste- efficiency, recycling, and refuse

Readings:

1. Cradle to Cradle: *Waste Equals Food* (Chapter 4)
2. Environmental Ethics: *The Ethics of Sustainable Resources* (p. 334-358)

Watch:

- Frontline: Poisoned Waters, 117m, Netflix
- iTunes-e2: *Growing Energy*
- Carbon Nation, 1 Hour 22 Minutes, Netflix

10. ACT LOCAL

What ecological and sustainable concerns vary by a local, case-by-case basis? And how can urban environments accommodate local needs to become self-sufficient?

Core Concepts:

- Green economy

- Urban agriculture and food systems
- Self-sufficiency
- Urban Homesteading and Permaculture

Readings:

1. Environmental Ethics: *Towards a Just Economic Order* (p. 359-370)
2. Eco City Dimensions: *Green Economic Development* (Part 3)
3. Natural Capital: *The Next Industrial Revolution*
4. Sustainable Urbanism: *Neighborhood Retail* (p.139-143); *Eco-benefits of Locally Owned Stores* (p.144-145)
5. Ecocities: *Plunge on In!* (Chapter 8, p.211-228)
6. Small Mart Revolution: *The LOIS Alternative* (Chapter 2, p.39-62)
7. Hallsmith, Gwendolyn. "The Key to Sustainable Cities: Meeting Human Needs Transforming Community Systems." Chapter 3: Community Capacity and Sustainability, p. 48-64
8. Urban Ag?

Watch:

- Climate of Change, 1hr27m, Netflix
- Food Fight, 71 Minutes, Netflix

Listen:

- Eco Evolution Podcast: *Local Food for the Global Shift...*, 11/4/12, 35:01

Online Resources:

- Edible Schoolyard: <http://edibleschoolyard.org/>

Visit?

- Institute for Local Self-Reliance- DC

Exercise: After completing the course, write down your new definition of ecological urbanism; then compare it with the definition you wrote on day one. Write a brief statement that explains the differences as well as how the definition evolved.

Additional Resources:

Other Books:

- Earth in the Balance: Ecology and the Human Spirit, Al Gore. GF 41 .G67 1993

NETFLIX:

- TEDTalks: Environment: Project Makeover, 15 Episodes
- E2, 1 season

ONLINE RESOURCES:

- *Sustainable Cities Institute: <http://www.sustainablecitiesinstitute.org/view/page.home/home> [many of the concepts discussed in course units]
- Ecocity Builders: <http://www.ecocitybuilders.org/>
- GOOD: Cities: <http://www.good.is/category/cities> [not always about sustainable/green topics]
- Green Cities Media (podcast series): <http://greencitiesmedia.com/>
- Planetizen: <http://www.planetizen.com/>
- Sustainable Cities Collective: <http://sustainablecitiescollective.com/>
- Urban Ecology Collaborative: <http://www.urbanecologycollaborative.org/uec/>
- Urban Shapers: <http://urbanshapers.info/live/>
- Green Events Baltimore: <http://greeneventsbalTIMORE.com/>

JANUARY

- WEEK 1 | **22** | Unit 1, Part A | *History of Ecology + Cities*
22 **Sustainability Commission**
27 *Baltimore Green Forum*
- WEEK 2 | **29** | Unit 1, Part B | *Environmental Ethics*
| Unit 2, Part A | *Deep Ecology*
31 *Network Green*

FEBRUARY

- WEEK 3 | **5** | Unit 2, Part B | *Deep Ecology*
- WEEK 4 | **12** | Unit 3 | *Human Nature*
12 *BGW Sustainable Speaker Series: Whenonah Hauter on Urban Food 7-9pm, Wheeler Auditorium, 400 Cathedral Street*
- WEEK 5 | **19** | Unit 4, Part A | *Learning from Nature: Holistic Planning*
24 *Baltimore Green Forum*
- WEEK 6 | **26** | Unit 4, Part B | *Learning from Nature : Biomimicry*
26 **Sustainability Commission**
28 *Network Green*

MARCH

- WEEK 7 | **5** | Unit 5 | *Scale*
- WEEK 8 | **12** | Unit 6, Part A | *Sustainable Urban Design* | **MID-SEMESTER EXAMS** (week of 11-16th)
16 *EcoBall, Baltimore Green Works*
19 **SPRING BREAK, NO CLASS** (week of 18-23)
24 *Baltimore Green Forum*
- WEEK 9 | **26** | Unit 6, Part B | *Alternative Forms of Development*
26 **Sustainability Commission**
28 *Network Green*

APRIL

- WEEK 10 | **2** | Unit 7 | *Green Building*
- WEEK 11 | **9** | Unit 8, Part A | *Green Infrastructure: Introducing Nature to the City*
- WEEK 12 | **16** | Unit 8, Part B | *Green Infrastructure: Urban Systems*
- WEEK 13 | **23** | Unit 9 | Resources
23 **Sustainability Commission + BALTIMORE GREEN WEEK** (April 20-27)
25 *Network Green*
28 *Baltimore Green Forum*
- WEEK 14 | **30** | Unit 10 | *Act Local*

MAY

- WEEK 15 | **7** | LAST CLASS (Last day of classes: 8th)
- 14** **FINAL ASSIGNMENT DUE** (final exams, week of 10-17)