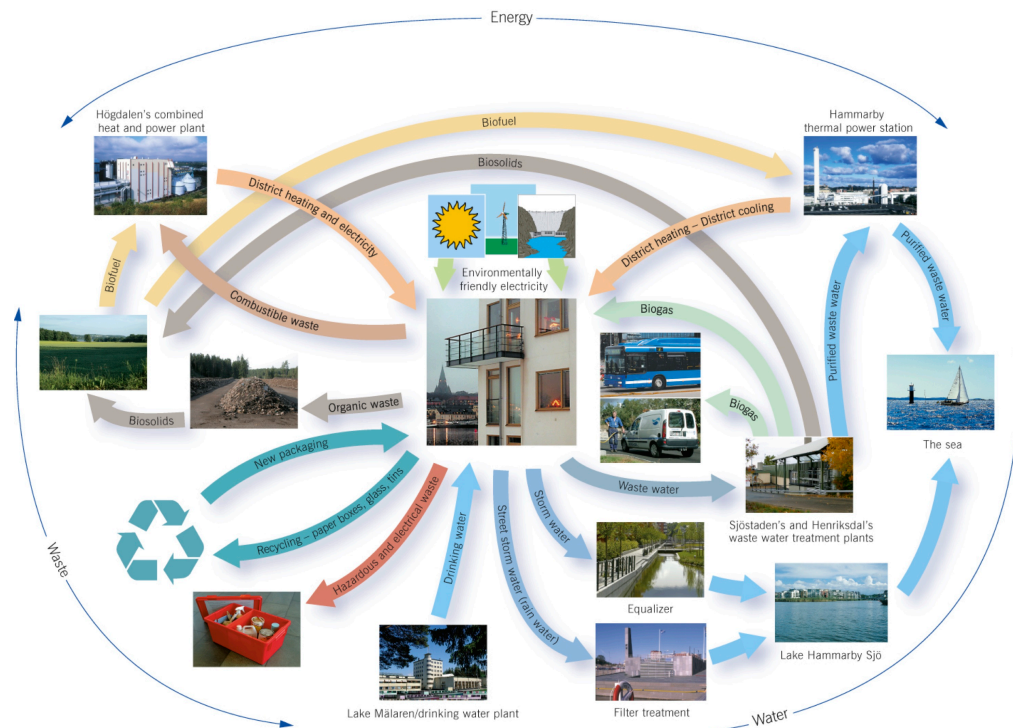


## ENEC 420/PLAN 420 –Community Design and Green Architecture

Course Syllabus Spring 2016 **v1.0- 11jan16**  
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*The Hammarby Model, Hammarby Sjöstad, Stockholm*

### Overview

This course addresses green architecture and community design as intertwined endeavors in the making of sustainable human habitats. We will examine contemporary sustainability initiatives and precedents through readings, lectures, field walks, case studies, and student presentations, from the scale of the building to the region.

The course can be thought of as four concurrent tracks: green community design, green architecture, green infrastructure, and sustainability principles in the built environment. We will explore linkages between urban form and sustainability, examining the physical footprint and configuration of the built environment. Included within these considerations are impacts on transportation, energy, and water, as well as social and economic fabrics. We will look at the spatial characteristics of the public realm, social equity, and public health from the perspective of design. These aspects will be framed through the historical factors that have influenced urban form - governmental policies, technology, politics, and economics, among others - as well as contemporary practices.

Many stakeholders play a role in the design of communities. While buildings are distinct elements designed and constructed in a relatively short time frame, many buildings and certainly cities have existed for many generations. Design reoccurs through rehabilitation, re-inhabitation, and restoration. This course focuses on the iterative and the entrenched aspects of placemaking. In its breadth, the course is a survey rather than an exhaustive study of any single aspect of sustainable urbanism.

Students should complete the course with a sense of the generative factors of urban form through history, a familiarity with a framework of precedents in both specifics and generalities, and insights into contemporary planning and design of sustainable urbanism. Objectives of the course include:

- 1) Establishing an understanding of the relationship between built form and energy demand, including reference to contemporary measures of sustainability such as LEED-ND;
- 2) Establishing an understanding of historical and contemporary forces and actors influencing built form;

- 3) Introducing design as an intentional act in the shaping of urban form, with consideration of disciplinary boundaries and agency;
- 4) Establishing an understanding of scale and dimension, particularly relative to the act of inhabiting, designing, and transforming place;
- 5) Equipping each student with the reflective and analytical capacity to consider one's own decisions with respect to the built environment.

### Class Format

Class sessions will be a combination of lecture, discussion, case studies, sketch exercises, critique, and student presentations. Students are responsible for knowing the content of BOTH the required readings and the lectures and class discussion materials. Please note that regular attendance and participation in class is expected, and will contribute to your semester grade.

### Assignments

Design is a participatory act, one facilitated through drawing. Design in this sense is also empirical, with the ability to document one's observations being a critical step in ascertaining the essential design qualities of a given condition. The Australian architect Glenn Murcutt describes drawing as an "act of discovery". Through sketching we will pursue such discoveries of the spaces around us. Some assignments for the course are structured to engage students in exercises observing and documenting urban form, or representations thereof. A primary aim of the course is to enable each student to develop or refine critical skills of observation and documentation, establishing a basic understanding of design concepts, strategies, and the use of precedents in thinking about and inhabiting the built environment.

SKETCH NOTEBOOKS WILL BE REQUIRED: students will be required to keep a sketch notebook for the course, where notations, sketches and other observations of urban form, particularly focusing on the experiential characteristics, should be recorded. A single notebook should be used for the course, integrating text notes as well as graphics (plans, sketches, diagrams, etc.) from the class sessions, readings, field exercises, and assignments. Excerpts from students' sketchbooks will be referenced through certain assignments and class discussions.

### Availability of Readings

There is **one required book** for the course:

- *How to Study Public Life* by Jan Gehl and Birgitte Svarre, Island Press, 2013.

Each student should also obtain an electronic or physical copy (electronic pdf is available for download from the UNC library) of the following two books:

- *The Green House: New Directions in Sustainable Architecture*, by Alanna Stang and Christopher Hawthorne, 2005
- *Green building: Guidebook for sustainable architecture*, by Michael Bauer, 2010

Other readings will be available via the course Sakai site, other online sources, or via hardcopy reserve in the Undergraduate Library. All readings are required unless otherwise noted. Readings on the syllabus noted with an asterisk (\*) are available for electronic download from the library. Assigned reading materials should be done in advance of the respective class meeting; please note that readings may or may not be directly referenced in the particular class session, but overall help to create an understanding of the topics being addressed.

Electronic reserves available through the library and linked on the course Sakai site include:

- *Green cities of Europe: Global lessons on green urbanism* by Timothy Beatley, 2012
- *Tactical Urbanism: Short-term Action for Long-term Change*, by Mike Lydon and Anthony Garcia, 2015
- *Companion to urban design* ed. by Tridib Banerjee and Anastatia Loukaitou-Sideris,
- *The City Reader* ed. by Richard LeGates, 2011

Physical copies on reserve in the Undergraduate Library, also linked through the course Sakai site, include:

- *Green Metropolis: Why Living Smaller, Living Closer and Driving Less are the Keys to Sustainability* by David Owen, 2009
- *Grand Avenues: The Story of Pierre Charles L'Enfant, the French Visionary who Designed Washington, D.C.* by Scott W. Berg, 2007
- *Seven Rules for Sustainable Communities: Design Strategies for the Post-Carbon World* by Patrick Condon, 2010,
- *A Country of Cities: A Manifesto for an Urban America* by Vishaan Chakrabarti, 2013

- *Retrofitting Suburbia*, by Ellen Dunham-Jones and June Williamson, 2009
- *Sustainable Urbanism: Urban Design with Nature* by Douglas Farr, 2008
- *Form Based Codes* by Daniel Parolek, Karen Parolek, and Paul C. Crawford, 2008
- *Great Streets* by Allan B. Jacobs, 1993
- *The Boulevard Book: History, Evolution, Design of Multiway Boulevards* by Allan B. Jacobs, Elizabeth Macdonald and Yodan Rofé, 2002
- *Cerdá: The Five Bases of the General Theory of Urbanization* by Arturo Soria y Puig, 1999

Readings for each session should be done in advance of the respective class meeting. Assigned readings will generally be from the required texts, or available electronically. Readings on the syllabus noted with an asterisk (\*) are available for electronic download from the library.

### Logistics

Class meets on Tuesdays and Thursdays from 2:00PM-3:15PM, Room 302, in Murphey Hall. Each student's full attention and participation is essential in enriching class discussions. Students' insights from the readings and from personal experiences relative to the built environment are enriching elements for the course and the sharing of those insights at appropriate times will contribute to student's class participation grade.

LAPTOPS ARE NOT ALLOWED TO BE USED IN CLASS, unless specifically instructed otherwise for research and course purposes. Texting, e-mail, web surfing, or performing other work during class are prohibited, and such activities will be reflected in the course participation grade.

### Grading

The course grade will be calculated as follows:

5%	Class participation (contributions to discussions, questions, and attendance)
5%	Regular sketching in sketchbooks, evaluated periodically over the semester, for consistency in completing sketches rather than for the quality of the work
10%	Urban space - observation exercise
15%	Group presentations - building and designer case studies
15%	Neighborhood structure analysis
15%	Group presentations - case studies at the city scale
15%	Urban intervention proposal
20%	Final exam (open notes/sketchbook – handwritten only)

### Submittal of work and late submittals

Submittals must be made via hardcopy or via Sakai, as dictated by the requirements of the respective assignment. Do NOT submit assignments or work to me via e-mail, as such submittals may not receive credit.

Late work, in lieu of an approved medical excuse, will be subjected to a full letter grade penalty if submitted within 24 hours of the original deadline, a two letter grade penalty if submitted in the second 24 hour period following the deadline, and a three letter grade penalty if submitted in the third 24 hour period. Beyond 72 hours no credit will be issued. Missed participation in group presentations may be subject to additional grade penalties.

### Honor Code

The UNC Honor Code states: "It shall be the responsibility of every student at The University of North Carolina at Chapel Hill to obey and to support the enforcement of the honor code, which prohibits lying, cheating, or stealing when these actions involve academic processes or University, student or academic personnel acting in an official capacity." By enrolling and participating in this course, you agree to comply with all aspects of the UNC Honor Code. All assignments shall be completed individually or in the assigned groups, as specified, and all ideas that are not your own must be cited.

### Instructor Contact

You are welcome to discuss with me lectures, readings, assignments or other matters related to the course. I generally will be available on Tuesday afternoons following class and on Thursday afternoons prior to class. I do not have an office on campus, so please confirm appointments with me via e-mail prior to the times you would like to meet, or check with me after classes on Tuesdays for any questions you may have.

## TENTATIVE COURSE SCHEDULE

*Readings and schedule are subject to change as we work through the semester.*

*\* Readings noted with an asterisk are available electronically through UNC Libraries by search.*

### Jan 12th Introduction to community design and green architecture

\* Alanna Stang and Christopher Hawthorne, “The Solaire,” in *The Green House: New Directions in Sustainable Architecture* (Princeton Architectural Press, 2005): 48-51.

**Read Plagiarism Handout from the UNC Writing Center site at**  
<http://www.unc.edu/depts/wcweb/handouts/plagiarism.html>

### Jan 14th The case for sustainable urbanism

The built environment today; compact, complete and connected communities

\* Randolph T. Hester and Marcia J. McNally, “Intertwist and intertwine: Sustainability, meet urban design,” in Banerjee, T. & Loukaitou-Sideris, eds., *Companion to Urban Design* (Routledge, 2011): 619-631.

Douglas Farr, *Sustainable Urbanism: Urban Design with Nature* (Wiley, 2008): “The Built Environment: Where We Are Today,” 18-39; “Sustainable Urbanism: Where We Need to Go,” 40-61

### Jan 19th Introduction to urban form and design

Urban design; LEED-ND

Patrick Condon, *Seven Rules for Sustainable Communities: Design Strategies for the Post-Carbon World*, Chapter 1, “Introduction,” pp. 1-15.

Skim:

“Introduction,” *2009 LEED-Neighborhood Development Rating System*, pp. xi-xx, from:  
U.S. Green Building Council, LEED-Neighborhood Development, [www.usgbc.org/LEED/ND/](http://www.usgbc.org/LEED/ND/)

### Jan 21st The City and its Elements

*Assignment #1 Issued: Neighborhood Structure Analysis*

*PATHS – The connective fabric as public realm*

*EDGES – Defining place*

*NODES – Forming the center*

*DISTRICTS – Forming the neighborhood*

*LANDMARKS – Image and identity*

\* Kevin Lynch, “The City Image and Its Elements.” In R. LeGates and F. Stout, eds., *The City Reader* (Routledge, 2011): 499-509.

Gorden Cullen, *The Concise Townscape* (Van Nostrand Reinhold, 1961): “Introduction,” 7-12.

### Jan 26th The Neighborhood Unit

Ebenezer Howard’s Garden Cities; Clarence Perry’s ‘Neighborhood Unit’

\* Ebenezer Howard, “Author’s introduction” and “The town-country magnet.” In R. LeGates and F. Stout, eds., *The City Reader* (Routledge, 2011): 328-335.

\* Clarence Perry, “The Neighborhood Unit.” In R. LeGates and F. Stout, eds., *The City Reader* (Routledge, 2011): 486-491, stopping at “A neighborhood unit for an industrial section.”

**Jan 28th LEED-ND (LEED for Neighborhood Development)**

“Introduction”, starting with “‘Neighborhood Development,’ Defined,” pages xi-xx, *LEED for Neighborhood Development 2009*, U.S. Green Building Council, [www.usgbc.org/LEED/ND/](http://www.usgbc.org/LEED/ND/)  
(excerpt included on Sakai)  
*Also note point categories and relative weightings.*

**Feb 2<sup>nd</sup> Green architecture and the design process: case studies**

Skim: U.S. Green Building Council, LEED-New Construction, from: [www.usgbc.org/LEED/NC/](http://www.usgbc.org/LEED/NC/)

Skim to review contents, themes, areas of specific individual interest:

\* Michael Bauer, *Green building: Guidebook for sustainable architecture* (Springer: 2010)

**Feb 4th ASSIGNMENT DUE: Neighborhood Structure Analysis - In-class critique**

**Feb 9<sup>th</sup> 20<sup>th</sup> Century Development Forces**  
20<sup>th</sup> century financing, design, and transportation standardization

Robert Fishman, "The Post-War American Suburb: A New Form, A New City," in Daniel Schaffer, ed., *Two Centuries of American Planning* (Johns Hopkins U. Press, 1988): 265-278.

Skim:

Kenneth Jackson, *Crabgrass Frontier: The Suburbanization of the United States* (Oxford University Press, 1985): "The Baby Boom and the Age of the Subdivision," 231-245.

**Feb 11th Streets and the Form of Cities**  
Streets and form, motoring and Moses, connectivity, sub-urban form, streets as public space

Michael Southworth & Eran Ben-Joseph, *Streets and the Shaping of Cities* (McGraw-Hill, 1997):  
“Introduction: Street Standards and the Built Environment,” 1-8, “Bureaucracy Takes Control,”  
77-96.

**Feb 16th Avenues and great streets**  
Allen Jacobs, intersection design, role of the street tree

Allen Jacobs, et. al., *The Boulevard Book* (MIT Press, 2002): 2-9.

\* Elizabeth Macdonald, “Streets and the public realm: emerging designs,” in Banerjee, T. & Loukaitou-Sideris, eds., *Companion to Urban Design* (Routledge, 2011): 419-431.

**Feb 18<sup>th</sup> Public urban spaces**  
Paul Zucker, Camillo Sitte, Christopher Alexander ; Cerda’s intersection studies; Gordon Cullen

J. Gehl and B. Svarre, *How to Study Public Life*, (Island Press, 2013): "Public life studies from a historical perspective," 37-80

\* Camillo Sitte, “Author’s Introduction,” "The Relationship Between Buildings, Monuments, and Public Squares," and “The Enclosed Character of the Public Square,” in LeGates & Stout, eds., *The City Reader* (Routledge, 2011): 474-485

**Feb 23rd Transportation networks and bike sharing – A Cincinnati case study**  
**GUEST LECTURER: Lindsay Maurer**

Readings TBD

**Feb 25th Urban observation exercise/urban field walk** – \*To be confirmed depending on weather

Allan B. Jacobs, *Looking at Cities*, (Harvard, 1985): “Starting to look,” 1-13; “Looking back,” 133-141

J. Gehl and B. Svarre, *How to Study Public Life*, (Island Press, 2013): "Public Space, Public Life: An Interaction" 1-8

<b>Mar 1st Group presentations I - Building and designer case studies</b>
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<b>Mar 3rd Group presentations II - Building and designer case studies</b>
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**Mar 8th FILM: Observing public spaces:** William, Whyte, *The Social Life of Small Urban Spaces* (1988)

**\*Alternate date, urban space observation/urban field walk**  
*ASSIGNMENT ISSUED: Urban space observation exercise*

\* William H. Whyte, “The Design of Spaces.” In R. LeGates and F. Stout, eds., *The City Reader* (Routledge, 2011): 510-517.

J. Gehl and B. Svarre, *How to Study Public Life*, (Island Press, 2013): "Who, What, Where?" 9-20, and "Counting, Mapping, Tracking and Other Tools," 21-36

**Mar 10th Walkability and the contemporary city: design, mobility, and the public realm**

Pedestrian science, spatial justice, walkability and sustainable urbanism

\* John Rennie Short & Luis Mauricio Pinet-Peralta (2010): "No Accident: Traffic and Pedestrians in the Modern City", *Mobilities*, 5:1, 41-59

**MAR 15<sup>th</sup> & 17<sup>th</sup> – NO CLASS - SPRING BREAK**

**Mar 22<sup>nd</sup> Landscape urbanism and case studies of design**

Frederick Steiner, *Design for a Vulnerable Planet*, (University of Texas Press, 2011): "Making Territory: The Potential of Landscape Urbanism," 51-64

\* Brenda Scheer, “Metropolitan form and landscape urbanism,” in Banerjee, T. & Loukaitou-Sideris, eds., *Companion to Urban Design* (Routledge, 2011): 611-618

**Mar 24th Water-Centric Infrastructure & Retrofits**

Case studies: Biological Capital, Co-op City, Battery Park City, RTP

S. Bry Sarté, *Sustainable Infrastructure: The Guide to Green Engineering and Design* (Wiley, 2010): “Graywater treatment and reuse,” 128-163.

\* Anne Whitson Spirn, “Ecological urbanism,” in Banerjee, T. & Loukaitou-Sideris, eds., *Companion to Urban Design* (Routledge, 2011): 600-610

**Mar 29th Site Walk - West Franklin Street: Looking, and walkable streets**

J. Gehl and B. Svarre, *How to Study Public Life*, (Island Press, 2013): "Public life studies in practice," 123-147

**Mar 31st** **ASSIGNMENT DUE: Observation of an urban space** *In class pin-up; drawings to be turned in at the end of class*

J. Gehl and B. Svarre, *How to Study Public Life*, (Island Press, 2013): "How they did it: Research notes," 81-122

**April 5th** **Retrofitting Suburbia; Incremental urbanism**  
*ASSIGNMENT ISSUED: Urban intervention proposal*

Ellen Dunham-Jones and June Williamson, *Retrofitting Suburbia* (Wiley, 2009): "Introduction," viii-xiv; "Instant Architecture, Instant Cities, and Incremental Metropolitanism," 2-14.

\* "Charter of the New Urbanism", 1993, in LeGates & Stout, eds., *The City Reader* (Routledge, 2011): 356-359.

**April 7th** **Tactical urbanism**

*Tactical Urbanism*, selected readings TBD

**April 12th** **Group presentations I - Green cities**

\* Timothy Beatley, ed., *Green Cities of Europe: Global Lessons on Green Urbanism*, (Island Press, 2012): "Introduction: Why Study European Cities?" 1-28, and chapter excerpts assigned by group

**April 14th** **Group presentation II - Green Cities**

Readings are the same as preceding session.

**April 19th** **Form-Based Codes**

Daniel G. Parolek, et.al. "Why Form Based Codes?", "A Brief History of Zoning," and "A New Approach", *Form-Based Codes* (Wiley, 2008) 3-14.

Alex Krieger, ed., "Since (and Before) Seaside," *Towns and Town-Making Principles* (Rizzoli: 1991): 9-16.

*Additional resources:*

\* Emily Talen, "Form-based codes vs. conventional zoning," in Banerjee, T. & Loukaitou-Sideris, eds., *Companion to Urban Design* (Routledge, 2011): 526-536

**April 21st** **ASSIGNMENT DUE: Presenting and critiques of Urban Intervention Proposals**  
*To be turned in following review.*

"What Makes a Successful Place?" Project for Public Spaces [website],  
<http://www.pps.org/reference/grplacefeat/>

**April 26th** **Retrofitting for Transit: A Durham/Chapel Hill group exercise;**  
**Final exam review**

\* Stefanos Polyzoides, "Notes on transit-oriented development," in Banerjee, T. & Loukaitou-Sideris, eds., *Companion to Urban Design* (Routledge, 2011): 644-653.

**FINAL EXAM: Noon, Monday, May 4th**