ENEC 420/PLAN 420 – Community Design and Green Architecture

Course Syllabus  Spring 2016  v1.0- 11jan16
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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:


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:

- *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
- *Companion to urban design* ed. by Tridib Banerjee and Anastatia Loukaitou-Sideris

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
- *Seven Rules for Sustainable Communities: Design Strategies for the Post-Carbon World* by Patrick Condon, 2010,
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


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


Jan 19th  Introduction to urban form and design

Urban design; LEED-ND


Skim:

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


Jan 26th  The Neighborhood Unit

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


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

Also note point categories and relative weightings.

Feb 2nd  Green architecture and the design process: case studies


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 9th  20th Century Development Forces

20th century financing, design, and transportation standardization


Skim:

Feb 11th  Streets and the Form of Cities

Streets and form, motoring and Moses, connectivity, sub-urban form, streets as public space


Feb 16th  Avenues and great streets

Allen Jacobs, intersection design, role of the street tree


Feb 18th  Public urban spaces

Paul Zucker, Camillo Sitte, Christopher Alexander ; Cerda’s intersection studies; Gorden Cullen


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


Mar 1st  Group presentations I - Building and designer case studies

Mar 3rd  Group presentations II - Building and designer case studies


*Alternate date, urban space observation/urban field walk

ASSIGNMENT ISSUED: Urban space observation exercise


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

Pedestrian science, spatial justice, walkability and sustainable urbanism


MAR 15th & 17th – NO CLASS - SPRING BREAK

Mar 22nd  Landscape urbanism and case studies of design


Mar 24th  Water-Centric Infrastructure & Retrofits

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


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

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


April 5th  Retrofitting Suburbia; Incremental urbanism

ASSIGNMENT ISSUED: Urban intervention proposal


April 7th  Tactical urbanism

Tactical Urbanism, selected readings TBD

April 12th  Group presentations I - Green cities


April 14th  Group presentation II - Green Cities

Readings are the same as preceding session.

April 19th  Form-Based Codes


Additional resources:

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