**Introduction to Urban Design**

**Summary**

This module examines density, zoning and land use regulations in urban design. We will explore and analyze concepts such as density and floor area ratio to examine how they relate to urbanization patterns.  In the end, you will design your own neighborhood and present it to class for further discussion.

The first session of the module introduces you to the history of urbanization patterns in the US. The next set of exercises of this module, which will have 2 short quizzes (5 points each) associated with them, is designed to help you understand how ratios are used in zoning rules to determine urban density, neighborhood character and the shape of individual buildings.

The final assignment will be a group presentation of the redesign of a suburban area in accordance with density and FAR as well as open space ratio requirements.

**Learning Goals**

 (a) knowledge and conceptual understanding:

* *To read and interpret elements of a map (in this case zoning maps).*
* *To calculate a lot area, given the dimensions.*
* *To apply ratio and area calculations to build or illustrate a building envelope on a lot given certain restrictions.*
* *To explain different urban density measures and interpret urban density when presented with visual data.*
* *To create a neighborhood redevelopment proposal, using the above knowledge, following specific parameters.*

(b) thinking and other skills;

* *To describe the possible effects of different densities as well as FAR and zoning rules (such as, lot coverage, and open space ratio, etc) to shape urban areas.*
* *To explain and visualize graphically the effect of changes in zoning rules.*

*(c) attitudes, values, dispositions and habits of mind?*

* *To engage in spatial thinking, interpreting the built environment and relating this back to use categories and zoning relations.*

**Context for Use**

This module was developed for an upper-level course in interdisciplinary studies for the urban studies concentration.  The set of exercises and assignments is designed to correspond to discussions in an urban design module, which covers some of the following topics: suburbanization, sprawl, new urbanism, and neighborhood development.

Students are required to relate their practice of the specific concepts, such as density, FAR and mixed-use development to other concepts discussed in the course. For the final assignment students will present and assess the type of development they propose for a site.  The module includes several exercises, quizzes and a final assignment, which students will complete over a course of three to four 3-hour class sessions. The final writing assignment will completed at home. Besides assigned readings, I am using the Lincoln Institute and Density Atlas websites as a resource for these assignments: <http://www.lincolninst.edu/subcenters/visualizing-density/glossary.aspx> and <http://densityatlas.org> )

**Session I: Suburban nation**

1. **A.** Lecture and discussion of readings, which will discuss the history of urban development in the US since the post world war I period, focusing on increasing suburbanization in the US. The readings discuss some of the impacts of this development and the cultural values / perception associated with different forms of urban development.  We will probably read excerpts from the *Crabgrass Frontier* or *Place Matters* and *The Death and Life of Great American Cities*.
   1. Group work - with guiding questions
   2. Large group discussion

**Session II: Restructuring urban areas through design**

**A.** Introduction to current planning movements and principles, especially new urbanism and transit-oriented development, which focus on mitigating the effects of spraw

**B.    Introduction to ratios with examples on the board:**

* What are ratios?
  + When might you use ratios in your daily life?
  + Part to part: recipe example on the board (flour to milk).
  + Part to whole: girls and boys in a class, etc.

**Session II. Tackling urban design**

**Quiz 1** - simple ratio questions.

**A.** Urban design: introduction to urban density:

**a.** What do we mean by density when we talk about urbanization patterns?

Lecture  / discussion: use pictures from Lincoln Institute visualizing density website (<http://www.lincolninst.edu/subcenters/visualizing-density/>) and the density atlas (<http://densityatlas.org/measuring/>) to show the many different urbanization patterns and neighborhood forms similar densities can create.

**b.** Discuss different ways of measuring density as ratios: (http://densityatlas.org/measuring/):

* Dwelling units per acre (hectare used in other countries),
* Population per acre,
* Floor area ratio (FAR)

**c.** Talk about scales:

* Building,
* Lot,
* Block,
* Neighborhood,

**B.    Focusing in on FAR**

PowerPoint: focus in on New York City to explain FAR, using two different neighborhood districts.  Then move into exercise to apply FAR on the lot level: Floor Area Ratio = (Gross Floor Area of Building) / (Lot Area) – usually given in square feet in NYC.

***Exercise 1: In order to explain FAR (floor area ratio), start with FAR 1.***

* You have a square lot (100 by 100 feet).
* What is the area of the lot? (i.e. how many square feet)
* Drawing on the board: could someone illustrate an FAR of 1 with 100% lot coverage?
* What might FAR 1 look like given: FAR 1 with, 50% coverage, 30% coverage and 25% coverage.

**Exercise 2: create multiple residential buildings on a site 200 feet by 200 feet with building lots of 50 feet by 50 feet.**

* Divide the class into groups of no more than 4 group members.
* Each group (two groups will share the same) will get an FAR and population density specification.

**As a group:**

a)     Divide the site into lots.

b)    With the following restrictions on lot coverage (75%) as well as an open space ratio requirement\* of 20, plan the site’s development.

c)     Present this development proposal to the class, applying concepts from our readings to justify your plan.

 Note: I am still grappling with materials: different size cartons, legos, cardboard, etc. Or do they draw it?

**Session III. Urban design: neighborhood design and restructuring a suburb.**

**Quiz 2** at beginning of class: a) pictures representing different FAR and lot coverage - students will have to identify FAR and lot coverage; b) pictures representing different densities – students will explain how very different built environments my have very similar densities.

**A.** Lecture and discussion of the charter for new urbanism, Jacobs, Whyte and Lynch. PowerPoint of interesting redevelopment cases, like Vaudan in Freiburg and the French Quarter in Tuebbingen.

**B.** An introduction to an actual or fictitious suburban site slated to be redeveloped. There is an RFP (I still have to write this) for the area, and student groups will be responding to the RFP with conceptual proposals for the site.

* Group presentations of development proposals (10 points) - need to develop detailed assignment with rubric
* Individual text (prepared at home) to justify propposal (10 points) - need to develop detailed assignment with rubric