URSP 250
The Sustainable City: Opportunities and Challenges

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COURSE DESCRIPTION

Introduction

For most of our history, humans have been hunters and gatherers living a nomadic life in small groupings. Permanent settlements were made possible by the domestication of plants and animals some 10,000 years ago, and cities eventually appeared. However, with few exceptions the urban population remained quite small in the millennia following the advent of agriculture. The harnessing of cheap fossil fuels in the 19th century and associated technological innovations, led to the rapid growth of cities and their suburbs. By 2009, for the first time in history, more than half of the world’s population lives in cities and it is estimated that by the year 2030 the urban population will reach 5 billion, or 60 percent of the world’s population.

Cheap oil has facilitated the rapid expansion of the world’s population and the emergence of a global economy based on “free” trade and mass consumption. While there have been many benefits from this growth, the negative impacts of these phenomena include, but are not limited to, ecosystem degradation, accelerated species loss, resource depletion (including fossil fuel supplies), and global warming. Worldwide, cities now consume 75 percent of the world’s energy and emit 80 percent of the world’s greenhouse gasses. These trends have raised critical questions for the global community. Are cities sustainable? If not, can they be transformed to be sustainable? How? And if cities in their current form cannot be made sustainable, what are the implications and how do we make the transformation to a more sustainable living pattern on the land?

Purpose of the Class

This class will explore, through an interdisciplinary approach, a number of issues related to making cities more sustainable in terms of environmental, economic and social dimensions. Through different disciplinary-based lenses – including environmental studies, economics, sociology, government and politics, and planning -- the class will examine the notion of a Sustainable City and the opportunities it offers and the challenges it faces. The issues will be investigated through readings, videos, and class discussion as
students work within a multidisciplinary framework to identify the synergies between the
different disciplines that study the city. The overall goals of the course are to assist
students to develop skills in critical analysis and systems thinking and to use those skills
in analyzing sustainability-related problems and potential solutions; and to expand
students’ understanding of the political implications of crafting and moving towards a
sustainable urban future.

COURSE REQUIREMENTS

Reading Assignments

The readings for the course are derived from four primary sources: (1) the two required
textbooks, available for purchase at the University Book Center (UBC) and the Maryland
Book Exchange (MBE); (2) book chapters that have been scanned and are available in
digital form from the course ELMS website (see below); and (3) the internet (from
addresses indicated below).

Required Texts
The two required texts are the following.

Routledge.

(2) Newman, Peter, Timothy Beatley and Heather Boyer. 2009. *Resilient Cities:
Responding to Peak Oil and Climate Change*. Washington, DC: Island Press.

Course Reserves: Chapters from Other Books; Required Texts
Assigned chapters from books are available at [www.elms.umd.edu](http://www.elms.umd.edu). Use the following
steps to access book chapters.

1. Go to [www.elms.umd.edu](http://www.elms.umd.edu)
2. Type in your University Directory username and password
3. Select URSP 250 from your course list shown at the top right of the page
4. Select “Course Tools” from the menu in the left column
5. Select ‘Course Reserves”
6. Select the book containing the assigned chapter. (Remember, the list is by book,
not by name of the chapter or the author of the chapter in an edited volume.)

The list in “Course Reserves” includes the required texts. You can get the call numbers
from the list; both books are on reserve at McKeldin Library.

For those of you who have never used ELMS, there is a good summary of how to use the
for Students”.
Course Organization and Grading

On Tuesdays we will meet as one group, while discussion sections will be held on most Thursdays (except for Jan. 28, Feb. 4, Feb. 11 and April 24). Students are expected to have done the assigned readings prior to each class and section so that they can fully participate in class discussions. There will be an in-class midterm exam on March 11; papers that are due on Feb. 18, April 1, May 6, and May 17. The paper due on May 17 is a life cycle and systems analyses of a product or alternative energy system that is touted as “sustainable”, and counts as the final exam. The final exam period on May 17 will consist of student team presentations of their life cycle and systems analyses. Grades will be determined as follows: section participation, 10 percent; assignments 1 through 3, 15 percent; midterm exam, 20 percent; and assignment 4 (and presentation), 25 percent.

ACADEMIC INTEGRITY STATEMENT

The University of Maryland, College Park has a nationally recognized Code of Academic Integrity, administered by the Student Honor Council. This Code sets standards for academic integrity at Maryland for all undergraduate and graduate students. As a student you are responsible for upholding these standards for this course. It is very important for you to be aware of the consequences of cheating, fabrication, facilitation, and plagiarism. For more information on the Code of Academic Integrity or the Student Honor Council, please visit http://www.shc.umd.edu/code.html.

To further exhibit your commitment to academic integrity, remember to sign the Honor Pledge on all examinations and assignments: "I pledge on my honor that I have not given or received any unauthorized assistance on this examination (assignment)."

COURSE EVALUATION

Your participation in the evaluation of courses through CourseEvalUM is a responsibility you hold as a student member of our academic community. Your feedback is confidential and important to the improvement of teaching and learning at the University as well as to the tenure and promotion process. CourseEvalUM will be open for you to complete your evaluations for Spring semester courses between April 27 and May 12. You will be able to go directly to the website (www.courseevalum.umd.edu) to complete your evaluations starting April 27. By completing all of your evaluations each semester, you will have the privilege of accessing the summary reports for thousands of courses online at Testudo.

COURSE OUTLINE AND CLASS SCHEDULE

[Note: Readings available on ELMS are denoted with an asterisk(*). All other readings are from the required texts, the latter of which are also on reserve at the Architecture Library.]
1. **Introduction to the course**  (Tue. Jan. 26)

2. **Evolution of cities; cities’ environmental history; the rise of the fossil-fuel based economy**


   Thurs., Feb. 4.  *Cities and Nature*, Ch. 4, “Contemporary Urbanism and Environmental Dynamics”.  *(Meet in 1100 Tawes.)*

3. **The structure of science; posing questions about the city; the science of global warming**

   Tues., Feb. 9.  *City Lights*, Ch. 3, “Posing the questions”, pp. 56-75.  **Assignment 1 handed out, due in section on Feb. 18**

   Thurs., Feb. 11.  **Meet in 1100 Tawes.**  The science of global warming.  Guest presenter: Dan Kirk-Davidoff, Assist. Prof, Atmospheric and Oceanographic Science.

   *N. Fiala, “The Greenhouse Hamburger”, *Scientific American*, February 2009, pp. 72-75.  *A color version of this article is posted on “course documents”.*

   For background information on global warming, you may peruse the Union of Concerned Scientists’ website page on FAQ re/ global warming, at  

4. **Urban ecology; environmental issues, hazards and disasters**

Thurs., Feb. 18. **Meet in discussion section; assignment 1 handed in and discussed.**


Thurs., Feb. 25. **Meet in discussion section to discuss Feb. 23 material.**


5. **Race, class, social equity and environmental justice**

Thurs., Mar. 4. *Cities and Nature*. Ch. 11, “Race, class and environmental justice”. **Meet in discussion session.**

Tues., Mar. 9. R. Bullard, “Poverty, Pollution and Environmental Racism: Strategies for Building Healthy and Sustainable Communities,” available at www.ejrc.ca.edu/PovpolEj.html#18end

We will also reserve class time for a review session for the Mar. 11 midterm.

Optional Reading

********** Thurs., Mar. 11. Midterm exam in 1100 Tawes **********

6. **Ecological footprints of individuals and cities; life cycle analysis; energy-return-on-energy-investment**

Tues., Mar. 23. *Cities and Nature*, Ch. 7, “Urban ecology”; and

*Peter Newman and Isabella Jennings, Cities as Sustainable Ecosystems* (Washington, DC: Island Press, 2008), Ch. 4, pp. 80-90. **Assignment 2 handed out; due on April 1.**

Thurs., Mar. 25. **Meet in discussion section.**

Optional reading


7. **An encompassing definition of “sustainability”**

   Tues., Mar. 30.


   The Earth Charter Initiative. World Wide Web page  
   [http://www.earthcharterinaction.org/content/pages/History.html](http://www.earthcharterinaction.org/content/pages/History.html)

Optional Reading

Thurs. April 1. **Meet in discussion section; assignment 2 due.** Students will discuss the Mar. 30 readings.

8. **A Sustainable Urban Future?**


   Tues., April 13.

   *P. Newman and I. Jennings, *Cities as Sustainable Ecosystems*, Ch. 9; and *Resilient Cities*, Ch. 5.*
Thurs., April 15. **Meet in discussion section.** *Resilient Cities*, chs. 5 and 6.

Tues., April 20.

*P. Newman and I. Jennings, *Cities as Sustainable Ecosystems*, Ch. 10; and

Lester R. Brown, *Plan B 4.0: Mobilizing to Save Civilization* (New York: W.W. Norton, 2009), Ch. 10. Available to download at [www.earth-policy.org/index.php?/books/pb3](http://www.earth-policy.org/index.php?/books/pb3)

Thurs., April 22. **Meet in discussion sections** to discuss April 20 readings.


Optional Reading


Tues., May 4. Stream walk: the ecological importance of urban streams; and best practices in urban stream protection and restoration. **We will meet in 1100 Tawes and then walk to Paint Branch Creek.**


*R. Louv, Last Child in the Woods* (Chapel Hill, NC: Algonquin Books, 2008), Ch. 5, pp. 55-70.

Thurs., May 6. **Meet in discussion sections to discuss stream walk and May 4 reading; hand in Assignment 3.**


***** Assignment 4 due; Presentations. Monday, May 17, 10:30 to 12:30) *****