Course Description

The world is an increasingly urban place and so what happens in cities – how they operate and change over time – takes on a growing urgency for the sustainability of life on earth. Already, more than half of the world’s population lives in cities and it is estimated that an additional 75 million people will be added to urban areas each year. As a result, the direction that cities take – how they accommodate this growth and manage existing settlements – will become the determining factor for global sustainability. Cities are both beacons of opportunity and advancement for much of the world’s population, and the drivers of unsustainable lifestyles and practices that are depleting resources and degrading natural systems. For over a century, urban planning and other modern academic disciplines have provided decision-makers the tools to eliminate or very dramatically reduce the threat of communicable disease, fire, and industrial contamination that plagued early industrial cities. Urban populations are larger, healthier, more mobile, and better connected to the global economy than ever before. Our industrial food system delivers affordable nutrition thousands of miles from its source. Energy extraction regimes are developing ever-more efficient ways to harness and deliver energy resources from miles beneath the earth’s surface. These triumphs are predicated on highly specialized knowledge and humanity’s ability to manipulate natural processes. It has become increasingly evident, however, that this manipulation threatens the global systems of which we are an inextricable part. Global climate change, energy and resource scarcity, the decline of life-supporting ecosystems, and the growing disparity between wealthy and poor communities are as much the result of modern human successes as they are a major contributor to current and future community devastation. Increasingly, urban and regional planners will have to confront these contradictions and address issues that are rooted in activities far away in space (across the globe) and time (decades or centuries ago). **How can we create healthy, safe, resilient and inclusive communities without compromising the ecosystems upon which all life depends? What can planners and policy makers do to realize a high quality of life in our cities without further damaging the earth’s ecosystems or consuming resources at an unsustainable rate?**

This course will explore ways we can begin to resolve these global, regional and local issues of unsustainable development priorities by better understanding how and where we chose to live. The course consists of four units that will start with the basics of the sustainable development challenges facing urban areas and then move through three scales at which planners engage with these issues: the regional or metropolitan scale, the neighborhood or community scale, and the individual household scale.

**Unit 1 – Global Sustainability Issues and Debates**
In **unit one**, we will start by looking at global development trends driving concerns about urban sustainability – unsustainable consumption, planetary boundaries and the basic science of climate change. We will examine how human settlements have changed throughout time, and how more recent human activity has compromised global ecosystems. We will discover that *where* and *how* humanity has chosen to live has resulted in grave conflicts between human and non-human life as well as amongst different human communities. These conflicts (i.e. the tensions between our energy production systems and rapidly changing global climate) have begun to force us to reconsider where and how we live while adapting to new environmental realities.

Many of these conflicts are the result of **specific human decisions** that can be reversed and reconsidered. In the remainder of the course, we will learn about these decisions taken at various urban scales, and alternatives that allow cities and their inhabitants to meet basic needs without further damaging the ecosystems upon which we depend. We will also learn the difference between merely “green” solutions and more profound changes in physical and social structures.

**Unit II – Regional Urban Systems**

In **unit two**, we will zoom in to the regional scale to gain a more nuanced understanding of water management, land use, transportation, and housing systems and how these systems have historically conflicted with natural ecosystems. We will explore how existing alternatives can better take advantage of nature’s free ecosystem services without further destroying them. This unit will conclude with an in-class midterm exam.

**Unit III – Sustainable Urban Neighborhoods**

**Unit three** will explore neighborhood-scale decisions and how they influence our day-to-day lives. This unit is design-focused and will therefore cover rubrics such as Leadership in Energy and Environmental Design (LEED), and techniques to conserve and harness energy at the local scale. This unit will also address how we plan for resilient cities in the face of a changing climate.

**Unit IV – Green Buildings and Individual Choices**

**Unit four** considers how site level and individual, day-to-day consumption decisions have an influence on the environment. We will discuss low-impact interior design, individual dietary choices, and transportation choices.

**Course Objectives**

Throughout the semester, students will:

1. Develop a more **critical, multi-scaled perspective** about decisions in the built environment
2. Build a **vocabulary** and the **ability to communicate** about the built environment, sustainability, and sustainable development
3. Engage in critical **self-reflection** about *where* and *how* they live
4. Become an **agent** for positive social and environmental change and contribute substantially to local knowledge of sustainability


**Course Format**

The course is organized as follows. Prior to each class, students are required to complete the assigned readings and submit a reading reflection (explained below). Most class sessions will follow one of the following formats:

1. **Lecture/discussion:** Beginning with the instructor providing an overview of the basic questions and debates dealt in that session’s readings. The second part of these sessions will have an assigned student(s) discussion leader (see below) to initiate and sustain discussions. All students are expected to actively participate.

2. **Online lessons:** Lessons facilitated online via Illinois Compass. You will not report to the classroom for these sessions but will be responsible for going through the material (slides and/or videos) on the assigned day and completing a short quiz on Illinois Compass.

3. **Designed activities or in class exercises:** In addition to or in lieu of lectures/discussions, certain classes may have activities or exercises intended to supplement the learning objectives such as quizzes, quick writes, field trips, etc.

**Reading Reflections Blog and Discussion Leader Roles**

**Reading reflections** on the week’s upcoming assigned readings must be submitted to the **Reading Reflections Blog** on Compass by **12:00pm (noon) on the Monday** of each week. These submissions are meant to demonstrate your engagement with course material and provide feedback to me about ideas or concepts that may be confusing or need further explanation. Your reflections should be written in paragraph form and respond to the following prompts:

- **Reading #1:** Title...
  - What do YOU think is the author’s main point?
  - What did you like about the paper? What did you not like about the paper?
  - Identify some aspect of the reading that made an impression on you (new fact, enlightening observation, new twist to an old idea, writing style, relationship to another reading, etc.).
  - State one question you would like to ask the class, or one aspect of the reading that you did not understand.

- **Reading #2...:** Title... repeat... items 1 through 5.

In addition to responding to the above prompts for each reading you will be given a guiding question(s) for the week’s module. These questions are intended to encourage you to think
critically about what you have read and what the authors are telling us about urban sustainability. Questions will be posted on the Introduction page of each lesson module (week) in Compass.

**Discussion leader** dates will be assigned in Week 2. On the assigned dates, the discussion leader(s) will be responsible for facilitating a discussion on the readings for the week. Prior to the class session the discussion leader(s) will develop a list of discussion questions in addition to their weekly reading reflection. Post your discussion questions on the Compass by 5:00 PM of the **day before** the planned discussion. Discussion leaders should post their submissions each time as a New Thread in the Discussion Leader “forum” on the Discussion Board. Come to class prepared to facilitate a one-half hour to 45 minutes discussion on the day’s readings and topic using a mix of questions and/or activities. Additional materials such as relevant newspaper articles or videos can also be used to engage your classmates. *If there is more than one discussion leader be sure to coordinate your efforts prior to the class session.*

**Course Evaluation**

There will be two tests on the material covered in the readings, lectures, and online lessons – a midterm and final exam, along with eight quizzes that follow the online lessons. There will also be a semester long project that culminates with a final report and presentation. Class participation will be based on class involvement, engagement and attendance, in addition to your performance as discussion leader. If you must miss a class session due to special circumstance such as illness or family emergency, you should notify me via e-mail (dallred2@illinois.edu) as soon as possible. More than two (2) unexcused absences will result in an automatic drop of ten (10) percentage points from your final grade. All assignments should be submitted to Compass on the due date unless otherwise noted. Late assignments will be graded down one letter grade per day (half a letter grade if turned in after class on due date). Grade percentages will be distributed as follows:

<table>
<thead>
<tr>
<th>Class participation/discussion leader</th>
<th>15%</th>
<th>Exams (2)</th>
<th>30%</th>
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<tbody>
<tr>
<td>Reading reflections</td>
<td>20%</td>
<td>Sustainability assessment</td>
<td>15%</td>
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<td>Online quizzes (8)</td>
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Transformation of numerical grade to letter grade will be according to the schedule below:

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<th>Grade</th>
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<tbody>
<tr>
<td>A</td>
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<tr>
<td>B+</td>
<td>87-89.9</td>
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<tr>
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<td>D+</td>
<td>67-69.9</td>
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<td>D</td>
<td>60-66.9</td>
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The general grading rubric for assignments is as follows:
An “A” assignment demonstrates original thought and synthesis of ideas and sophisticated, cogent analysis. It is clearly written and presented.

A “B” assignment includes above average analysis with appropriate evidence to support ideas. It is clearly written and presented.

A “C” assignment shows a basic level of understanding, with analysis limited to obvious arguments. Writing is competent. It is adequate work.

A “D” assignment misunderstands or misrepresents the material or is so poorly written that it obscures the analysis. It is inadequate work.

Class participation and discussion leader (15%): You are expected to be an engaged participant in class and a thoughtful and prepared discussion facilitator on your assigned day. Attendance will be taken daily. Your role as a discussion leader will be graded based on timeliness and thoughtfulness of submissions, relevance of moderated discussions to the assigned readings, and your ability to engage a broad section of the class.

Reading reflections blog (20% total): Weekly posts to Compass that demonstrate your familiarity with that week’s readings and give you the opportunity to reflect on what you are learning. I will review your posts throughout the semester and assess a final grade based on following directions (responding to prompts) and the completeness of the task.

Midterm and final exams (15% each – 30% total): Your midterm and final exams will evaluate your understanding of the most important concepts taught in this course. In both lectures and online lessons, I will highlight critical terms. The exams will be built around these terms.

Online quizzes (20%): Eight lessons throughout the semester will be facilitated online. You will not have to report to the classroom for these lessons, but you must complete the asynchronous lesson before 5:00PM on the day we would have otherwise reported to class. Almost all of these lessons take place on Wednesday. A lesson is considered complete when you have finished the associated ten-question quiz. These quizzes will focus on the critical terms that will also appear on your midterm exam. It is therefore in your best interest to complete the quiz independently. The class schedule below details which lessons will be facilitated online. Please mark these dates on your calendar.

Sustainability assessment project (20%): Over the course of the semester you will apply the concepts and ideas from the course as a way to better understand the sustainability issues in your hometown. Over the course of several milestone submittals, the project will look at issues of urban sustainability from the region, local, and individual perspective, culminating in a final report and class presentation.
Readings
You can access all required readings on Illinois Compass. Readings are listed by week ("lesson" modules in Compass) in the schedule below. All required readings on the schedule must be completed prior to the beginning of the first class for that week. For example, students should have read all the required readings in the Lesson 2 (week 2) module folder BEFORE they arrive to class on January 27th and with enough time to have submitted their reading reflection by noon on Monday, January 26th. Reading for this class is imperative for contribution to discussion. Failure to keep up with required readings seriously inhibits learning and will most likely reflect poor performance on assignments and exams, as well as the evaluation of your in class participation.

Course Policies

Student Conduct: The Department of Urban and Regional Planning (DURP) is committed to creating an environment of inclusion and opportunity that is rooted in the very goals and responsibilities of practicing planners. Conduct that interferes with the rights of another or creates an atmosphere of intimidation or disrespect is inconsistent with the environment of learning and cooperation that the program requires. By enrolling in class in the Department of Urban and Regional Planning, students agree to be responsible for maintaining a respectful environment in all DURP activities, including classes, projects, and extracurricular programs. We will be governed by the University Student Code. See Student Code Article 1—Student Rights and Responsibilities, Part 1. Student Rights: §1-102 In the Classroom.

Disability Services: This course will accommodate students with documented disabilities. Please refer to the Disability Resource Guide at (http://www.disability.uiuc.edu/resourceguide) for more information. Please inform me of any requests at the beginning of the semester.

Academic Integrity: The UIUC Student Code (http://www.admin.uiuc.edu/policy/code) requires all students to support academic integrity and abide by its provisions, which prohibit cheating, fabrication, plagiarism, and facilitation of these and related infractions. According to Section § 1-401, “students have been given notice of this rule by virtue of its publication” and “regardless of whether a student has actually read this rule, a student is charged with knowledge of it.” The provisions of the Student Code are applicable to this course. In written work, all ideas (as well as data or other information) that are not your own must be cited.

[1] Select class sessions will be administered online. Please read ahead in the schedule to learn more.
Schedule and Required Readings

Unit I – Global Sustainability Issues and Debates: In this unit, we will introduce the key terms, fundamental issues, and debates of urban sustainability. We will discuss the concept of planetary boundaries and the basic science of climate change and its relationship to human activities. We will examine how human settlements have changed throughout time, and how recent human activity (e.g. how and where we live) in particular threatens global ecosystems.

- Week 1 – What is urban sustainability?
  - Themes: Course introduction, urban, sustainability, ecological vs. technical sustainability
  - Readings

- Week 2 – Natural systems in crisis
  - Themes: Climate change, biodiversity, ecological footprint, natural capital
  - Readings

- Week 3 – Climate change causes and effects
  - Themes: Greenhouse gas emissions, energy resource extraction and production
  - Readings

Unit II – Regional Urban Systems: In this unit, we will start looking at how we plan for urban sustainability at the regional or metropolitan scale. Local plans have regional impacts. Water management, land use, transportation, and housing systems have historically been the responsibility of individual cities, creating externalities and inefficiencies that unnecessarily
contribute to urban sprawl and degrade natural systems. We will explore alternatives that coordinate urban growth at the scale of labor markets, commute sheds to better take advantage of nature’s free ecosystem services without further destroying them. **This unit will conclude with a midterm exam on March 5th.**

- **Week 4 – Urban development trends, trajectories, and impacts**
  - Themes: Suburbanization, sprawl
  - In class video: James Howard Kunstler, TED Lecture: the Tragedy of Suburbia (http://video.google.com/videoplay?docid=-305728017890951497#)
  - Readings
  - Assigned: Sustainability assessment project

- **Week 5 – The regional dilemma**
  - Themes: Fragmentation, tragedy of the commons, interurban competition, green infrastructure, watersheds
  - Readings
    - ii. Worster, Donald. "Watershed Democracy: recovering the lost vision of John Wesley Powell

- **Week 6 – Regional planning and sustainable growth**
  - Themes: Growth management, smart growth, VMT, regional coordination
  - Readings

- **Week 7 – The challenges and opportunities of demographic change**
  - Themes: Aging in place, household size, housing preferences
  - Readings

- **Midterm exam**

**Unit III – Sustainable Neighborhoods:** In this unit we will explore neighborhood-scale decisions and how they influence our day-to-day lives. This unit is neighborhood design-focused and will therefore cover rubrics such as Leadership in Energy and Environmental Design (LEED) that focus
on creating sustainable communities, and techniques to conserve and harness energy at the local scale. You will have a chance to seek out examples of sustainable neighborhoods and reflect on how the built environment of your own community facilitates or inhibits sustainable lifestyle choices. This unit will also address how we plan for resilient cities in the face of a changing climate.

- **Week 8 – Sustainability at the community scale**
  - Themes: Urban design, community development
  - Readings
    - i. Holland, Marc. The eight pillars of a sustainable community. HB Lanarc.
    - v. The City of Urbana Climate Action Plan (skim)
  - **Due: Regional sustainability assessment milestone**

- **Week 9 – Urban transportation systems and healthy cities**
  - Themes: Transit, environmental justice, equity, complete streets, walkability
  - Readings

- **Week 10 – SPRING BREAK**

- **Week 11 – Community-scale alternatives to conventional development**
  - Themes: Energy alternatives, renewables, micro-energy, eco-development
  - Readings
Unit IV – Green Buildings and Individual Choices: In this unit we will explore how site level design considerations and individual, day-to-day consumption decisions have an influence on the environment. We will discuss low-impact interior design, individual dietary choices, and transportation choices. This unit will conclude with final project presentations and a final exam on Tuesday, May 5th.

- Week 12 – Site-scale design and planning for resilience
  - Themes: Green building, vulnerability
  - Readings
  - Due: Local sustainability assessment milestone

- Week 13 – Greening buildings
  - Themes: Eco-interiors, low-impact design
  - Readings
    1. An excerpt from the most recent Champaign, Illinois existing conditions report. 2010. Pg. 85-86.
    2. Walking field trip to BIF.

- Week 14 – Site-scale systems
  - Themes: Water systems, electronics and appliances
  - Readings

- Week 15 – Student presentations
  - In class: Sustainability assessment project presentations

- Week 16 – Final exam
  - Final exam on Tuesday, May 5th.
## Summary of Sessions

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