

UP 480: Sustainable Design Principles

Time: self determined

Room: on line

Instructor: Brian Deal (deal@illinois.edu)

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Office hours: Monday 1:00pm-3:00pm, 228 TBH, or by appointment

Credits: 2 Hours

Prerequisite: Senior standing in UP or related discipline, or Consent of Instructor

Course Overview

The built environment has a significant impact on our natural resources. There are more than 76 million residential buildings and nearly 5 million commercial buildings in the U.S. today. Each year the construction, renovation and operation of these buildings consume: 40% of the raw materials, 32% of the total energy produced, 17% of all fresh water use, and 25% of the global wood harvest. Transforming resources into materials and putting them to use in our urban areas results in tens of millions of tons of greenhouse gases, air and water pollution, and wastes. The challenge is to plan for and produce healthy and sustainable urban places; with limited environmental impacts, that use a minimum of nonrenewable energy, produce a minimum of pollution and wastes, while increasing the comfort, health, and safety of the people who live and work in them.

This on-line course examines urban sustainability, sustainable design and its applicability. The overall goal of the course is to introduce students to sustainable concepts and ideas leading to a greater understanding of our built environment from a global and environmental impact perspective. The concepts taught in the courses will also provide a greater and more in-depth understanding of the LEED Rating System and its implications.

This is a 2hr course that is online and completely asynchronous, so that students can work at their own pace and fit this course in with other class commitments. There are 10 lesson modules with a quiz for each. There is also a final, comprehensive, online examination that is offered 3 times over the course of the semester.

Each Lesson has been organized according to the specific topics being introduced; however, the Overview of each lesson will always provide you with a list of objectives and activities to be accomplished as you progress through the course.

The initial lessons will focus on planning issues: defining sustainability, green rating systems and how they work, site planning and site-related issues, water resources and water efficiency, and resources and materials for sustainability. Subsequent lessons focus on specific systems and components included in LEED: efficient building energy systems, indoor environmental quality, the sustainable design process, and tools and resources for sustainable practice.

Learning Objectives

UP 480 is designed as a semester long 2hr course that is completely online. It involves reading, learning, and evaluation.

By the end of the course students will be able to establish individual parameters for alternative design, and technological solutions for reducing the environmental impacts of their plans and designs. The course will focus on 7 major aspects of sustainable design:

- Defining the term 'sustainability' and how we measure it.
- Site, landscape, and ecological design considerations.
- Sustainable development issues.
- Energy and the impacts of energy use and production.
- Building energy efficiency.
- Building water usage and reducing water consumption.
- Sustainable strategies for material selection and building procedures
- Indoor environmental quality.
- Sustainable design tools.
- Sustainable design process and process application.

Suggested Timeline

UP 480 is designed as a semester long 2hr course. The final exam will be made available 4 times over the course of the semester. You will be notified well in advance of the projected schedule.

Instructor Information

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Course Requirements

There are 10 lessons in this course, each of which is organized in a unique manner. Each activity within a lesson is intended to build upon the information that has been presented in the introductory module. It is not necessary that you engage with the material in the order that it has been arranged. As you progress through the course, you will encounter the following types of activities:

- 1) Lectures. Each unit contains integral lectures and related readings. These lectures have been developed in HTML with both audio and visual components, and they are available for you to listen and view as often as you wish.
- 2) Review Quizzes. The units also include review quizzes. Each of these quizzes consists of 10 multiple-choice questions online. These review quizzes are intended as preparation for the larger final exam, with the quizzes focusing upon material from lecture. **These can be taken as often as you feel is necessary. The last quiz taken is the grade recorded.**
- 3) The Final Exam (cumulative) will also be delivered on-line. It is a rigorous and comprehensive exam. It is 75 randomly selected multiple-choice questions. The focus of the multiple-choice questions will be material from each module, and from ancillary readings and links.

Course Grades

Grade Distribution. Quizzes 30%, Final exam 70%.

Your final letter grade will be determined largely by the total number of points you have earned on the above items. At any point in the course, your current grades can be viewed using the Grades link.

Letter grades will be assigned according to the following scale:

Percentage	Grade
98.00 - 100.0	A+
93.00 - 97.99	A
90.00 - 92.99	A-
87.00 - 89.99	B+
83.00 - 86.99	B
80.00 - 82.99	B-
77.00 - 79.99	C+
73.00 - 76.99	C
70.00 - 72.99	C-
67.00 - 69.99	D+
63.00 - 66.99	D
60.00 - 62.99	D-
00.00 - 59.99	F

Course Policies

You are one of many students who have chosen to study at your own pace through an on-line course. Individual study can be demanding because of the greater responsibility that you take for your own learning.

Studying on your own, you will need to balance the freedom and flexibility of a self-paced course with initiative and self-reliance. This means setting your own deadlines, motivating yourself to develop good study habits, establishing and maintaining a regular schedule of study, and making use of instructor feedback.

If you are able to take responsibility for your own education, you will find individual study not only convenient, but rewarding.

One of the advantages of this kind of self-paced individual instruction is that it tests your ability to be self-motivating and work without excessive supervision. You are on your own more than if you were in the classroom, so you need to establish your own goals and budget your time to complete the course.

Even though you do not meet face-to-face, you can develop a person-to-person relationship with your instructor. You can e-mail your instructor or TA, or stop by during office hours. Use these opportunities to ask questions or make comments about the lesson materials and assignments.

Study at a distance depends largely on written communication, so the quality of your writing--grammar, punctuation, and spelling--should meet college-level standards.

Academic Integrity

The University is responsible for maintaining academic integrity to ensure the quality of scholarship. It is your responsibility as a student to refrain from academic dishonesty, including plagiarism, i.e., representing the words or ideas of another as your own Final Grade.

Your final grade is determined by the instructor using the policies and standards of the academic department concerned. Although the weight given to lesson assignments and examinations may vary over courses, the final examination is an important factor in determining your final grade. A passing grade must be earned on the final examination in order to receive credit.