

Pratt Institute: Syllabus

**Pratt Institute Graduate Center for Planning & Environment/School of Architecture
Semester Fall 2005**

**EMS October 4, 2005 to Nov 1, 2005- Environmental Mini-Course:
Principals/Best Practices: New Construction**

**Credits - 1 Location – Pratt Higgins Hall
Type of Course - Lecture/Seminar/Mini-Course
Enrollment Capacity - 15**

**Day and Time – Tuesdays 4:30-7:30
Elective**

**Professor: Carlton A. Brown; e-mail cbrown@pratt.edu; Telephone# 212 864-7410 x 214
Coordinator: Eva Hanhardt ehanhardt@mas.org (work) evahanhardt@earthlink.net (home)
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MINI-COURSE DESCRIPTION:

This Mini-course, High Performance/Green Buildings – Principles/Best Practices is taught by a practicing high performance/green architect/developer. The course will provide students with the philosophy/theory, history, and best practices underpinning innovations in sustainability/high performance/green building. Focusing on new construction, the course will offer an in depth look at the process by which several of the architect/developer's buildings were conceived, designed and implemented with a particular focus on the potential for affordable high performance/green development.

The Professor will be assisted in preparing for and conducting the Mini-Course by the Environmental Planning Coordinator. The Coordinator will also be available, as needed, to assist and advise students.

COURSE REQUIREMENTS:

The class will include readings, lecture, class discussion, and, where appropriate, site visits and/or field work.

- There is a course textbook , Refabricating Architecture
- Additional selected individual readings will be handed out weekly.
- Students will be provided with a listing of web pages relating to each of the topics
- Selected readings will be placed on reserve at the Pratt Library

Students are expected to complete all assigned readings, participate in class discussions and attend site visits/field work trips. Students must stay current with required readings as the quality of class discussions depends on all students staying abreast of the reading. A portion of the required readings are in the required Textbook although additional readings may be handed out in class.

For materials from the Internet, students are not expected to read every word, but you should have a good grasp of the material and read thoroughly those parts that will assist them in class discussions

Final - Students will be required to prepare a 5 page final application of the materials/skills covered in the course in the form of: drawings, written material, models, charts, tables,

and/or other presentation methods. Students will also be required to provide a digital version of the above final assignment

COURSE OUTLINE:

This mini- course will have 5 sessions - An Introductory class; 2-3 Lecture/Seminar classes; 1-2 Site visits/Field work trips (where appropriate); a Final Integrative class.

Week 1 – Introduction – Topic **Conceptual Basis For Sustainable Affordability;**

This class will focus on the fast evolving broad based theory of sustainability upon which much of sustainable practice predicated. Alternative theories of whole systems design, bio-mimicry, and natural capitalism design will be discussed.

Readings: Reading Material: Habitat 2 documents; ULI Living Green Feb 2005; Lessons Learned High Performance Buildings; Understanding Natural Capitalism (adapted article but read the book also); Design as if Life Depends on it.

Week 2 – Topic Lecture/Discussion **Rethinking Process & Technological Relationships;**

This class will address the possibility of transformation of built environment process via transfer of technologies and process from other 21st century industry. The class will focus on the structural hurdles that built fabric must overcome in order to more effectively increase human benefit while reducing resource cost and eco-system costs. Projects that have taken the bio-mimicry and process engineering approaches will be discussed.

Readings: Refabricating Architecture;

ULI New Take on Sustainability; Mainstreaming High Performance Building in NYC; Green Office Buildings pages 240-247 Eastgate Harare, Zimbabwe (Biomimicry) and pages 216-221 Bank One Center Chicago and pages 334-348;

ULI Affordable Housing Michael Pyatok/ Suzzane Corcoran pages 30-40;

ULI May 2005 Green Neighborhoods;

Whole Systems Approach to Building pages 39-40;

The Engineers Role in Sustainable Design; Process Integration;

Not a New Way of Thinking pages 43-48

Week 3 – Topic **Projects Real and Planned Materials & Tools;**

The class will look at and discuss different approaches, materials and process that are available and are being used in real and planned projects

Readings: Cost and Benefits of High Performance Buildings pages 9-19 pages 33-38; pages 69-74; 85-93;

Lessons Learned High Performance Buildings Clean Energy Technologies pages 63-67 & Process, Technology and Materials pages 84-138;
ULI Affordable Housing Colorado Court pages 72 -75

Week 4 – Practicing professionals will visit class to demonstrate and discuss tools, methodologies, and materials they have used that conform with and support the rethinking process discussed in weeks 1 through 3;

Firms participating making 30 minute presentations are ARUP: Stephen Winter; Fredrick Schwartz Architects; Niche Environmental Design; AKF Engineering. Readings:

Students are asked to visit these web sites: oikos.com ; <http://www.eere.energy.gov/> ; <http://www.bfrl.nist.gov/oe/software/bees.html> ; <http://www.buildinggreen.com/ecommerce/gs.cfm> ; http://www.nahbrc.org/Docs/SubsystemNav/Foundations/3808_NAHB_fpsf.pdf?TrackID=&CategoryID=1802&DocumentID=3808 ; <http://www.toolbase.org>

Week 5 – Final Integrative Class; Each Team will present a project on which it has used some of its rethinking strategies bring it more into conformance with affordable sustainability theory and practice.

GOALS/LEARNING OBJECTIVES:

As an environmental specialty Mini-Course, the goal of the class is to familiarize students with relevant concepts, literature, and practices, both historical and current, relating to the Environmental Topic of affordable sustainability at the local, regional, national and global levels. The course will focus on “whole systems” approach to design and performance analysis in which the impact of social constructs and physical/technological constructs are equally important in assessing and achieving sustainability. The course will start with a global framework and dwell down to specific strategies used to overcome barriers to affordable sustainability. Taught by leading NYC practitioners in the field the mini-courses give students concrete technical and analytical skills and an understanding of real world applications that will be important to their work as planners, architects, designers and/or environmentalists. Students will be required to critically evaluate what they have read and heard. In addition, the class will give students an opportunity to learn how to express their ideas verbally and through the final application assignment.

The purpose of the final assignment is to give the students personal experience in applying the knowledge and skills presented in the course to a real site and situation. Students will learn the fundamentals of gathering and applying environmental information; evaluation of appropriate methods and technologies; presentation of ideas and proposals in verbal, visual and written form.

METHODS OF ASSESSMENT:

50% of a student’s grade will be for the quality of contributions to class discussion.

50% of a student’s grade will be for the quality of the final application