

## BC 4753A – Green Buildings

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**Office Hours:** By appointment only

**TIME:** Fall Quarter 1997  
Lectures: Tuesdays & Thursdays, 1:30 - 3:00 PM

**PLACE:** To be announced

**CREDITS:** 3 Credits

### ABSTRACT

This course provides an introduction to the initiatives, materials, theories, and practices of green building planning, design, construction, operation, deconstruction, and assessment. The course will include field trips to several green facilities in the Atlanta area, as well as introductions to other green facilities around the world using videos and slides. Course activities include a combination of lectures, in-class discussions, field trips, and two out-of-class projects.

### TEXT AND REQUIRED READINGS

The required text for this class is:

Public Technology, Inc. (1996). *Sustainable Building Technical Manual: Green Building Design, Construction, and Operations*. Public Technology, Inc., Washington, DC.

The text is available for purchase at the bookstore, or can be downloaded from the Internet at <http://www.pti.org>. The downloadable file is approximately 400 pages, and requires Adobe Acrobat Reader to open. If you elect to download this file, be prepared for a lengthy wait, and be careful to print thoughtfully at non-peak hours. The file takes about 45 minutes to print on a fast printer. Double-sided printing is recommended.

A list of suggested readings for students interested in expanding their knowledge of topics covered in this course is provided in Attachment A. Selected references relating to the class have been placed on reserve in the Architecture Library. Additional references on green building are available for in-library review at the Center for Sustainable

Technology Library in room 254 of the Centennial Research Building or at the Southface Library on Poplar Street near the Atlanta Civic Center.

## **EDUCATIONAL OBJECTIVES**

The principal educational objectives of the course are to:

- 1) familiarize students with the concept of green building, and its ramifications for design, decision making, and construction practice.
- 2) introduce students to a general approach for solving problems, and show how it can be applied to real world problems
- 3) acquaint students with the principal theories, materials, and construction techniques used to create green buildings or retrofit existing buildings to be “greener”.
- 4) develop specific skills for interfacing with the public, and presenting design recommendations.
- 5) develop a set of feasible solutions for a real world problem.
- 6) strengthen written and oral communication and presentation skills.
- 7) strengthen problem-solving skills, working both individually and in groups.

## **COURSE DESCRIPTION**

The course includes a combination of lectures, field trips, class discussions, feedback assignments, one individual project, and two group projects and presentations. All students who are interested in applying principles of green building to building practice may take this class; the course is not limited to students with a building construction background. There are no prerequisites for this course.

### ***Lectures and Assigned Readings***

The detailed list of lecture/discussion topics and assigned readings is contained in the Course Schedule at the end of the syllabus. The lectures provide the conceptual framework for the course and supplement (i.e., not replace) the assigned readings. It will be to the students' advantage to complete the readings before the lecture date so that questions which may arise can be discussed more fully. Students are expected to have a working understanding of the lecture and reading materials, whether they are present in class or not.

### ***Class Participation***

Active class participation is expected and required, since the course will include extensive in-class discussions among students. Different ways of participating in the course include, but are not limited to: 1) contributing in an active way to class discussion of concepts and ideas; 2) presenting a brief summary and/or personal interpretation of reading materials upon the instructor's request; and 3) presenting issues from out-of-class

## *Assignments*

Students are required to submit brief essays at the end of certain lectures. The purpose of these learning essays is to encourage you to: 1) absorb the information disseminated in class; 2) reflect on this information and consider how it may be applied to the your philosophies and practices with respect to green buildings; and 3) articulate the outcome of these reflections in written form. Content of the learning essay should include:

- 1) a summary of the important points you learned in the lecture.
- 2) personal reflections on what was learned.
- 3) articulation of the most and least helpful aspects of the lecture in achieving your objectives.

You will be told at the beginning of each lecture whether or not a learning essay will be required. Approximately three (3) essays will be required over the course of the quarter. In addition to the learning essays, you will be asked to submit a resumé and brief synopsis of why you are taking the course after the first class session. Completion of the learning essays and assignments will account for ten (10) percent of the final course grade.

## ***Class Projects***

There will be three (3) projects to be completed over the course of the quarter. The purpose of these projects is to provide students with an opportunity to apply the principles of green building and green design to real world problems. The projects will also provide a chance for students to strengthen their general thinking, organizational, and written and oral communication skills. Because topics for the projects will be taken from the real world, students will gain valuable experience in dealing with the kinds of people and problems with which they will have to work upon entering professional practice.

A brief description of the three projects follows:

**Project 1 (Individual - 40%):** You will conduct a comparative evaluation of at least three (3) different building materials for an application of your choice. Two out of the three materials must be alternative or green building materials. You will be provided with a standard format and analysis template. The results of each student's analysis will be compiled into a green materials directory and distributed to the class and other interested parties.

**Project 2 (Group - 40%):** You and several of your fellow students will conduct an assessment of a green building in the Atlanta area, using one or more of the evaluation guidelines presented in class. As a group, you will prepare a critical analysis of the facility in case study form, and present your results to the class in an oral presentation.

**Project 3 (Whole Class - 10%):** As a class, we will evaluate a "non-green" facility in the Atlanta area, generate and compare alternatives for "greening" the facility, and develop recommendations and an implementation plan. The results of this project will be formally presented to the owners/representatives of the facility via a class presentation session.

Additional information about the nature and scope of the projects will be provided over the course of the quarter. Students can expect the workload for the projects to be fairly evenly distributed over the quarter. Together, the projects will comprise ninety (90) percent of the final grade for the course.

## **FEEDBACK AND GRADING**

The breakdown of the total grade is:

- |                           |             |
|---------------------------|-------------|
| • Assignment Essays       | 10 %        |
| • Project 1 - Individual  | 40 %        |
| • Project 2 - Group       | 40 %        |
| • Project 3 - Whole Class | <u>10 %</u> |

**TOTAL** 100 %

The instructor will make every attempt to provide prompt feedback on all student submissions, either written or electronically. In addition, the instructor will specify open office hours for student questions and consultations. If appropriate, the instructor will institute an open door policy for student consultations.

**NOTES:**

The course description and course schedule handouts provide the general framework for the course. However, the instructors reserve the right to make any modifications or changes to the course, depending on the class progress, or on any special circumstance that may arise during the quarter.