

# Course Policy, Procedures, and Syllabus

*Building Construction Program, Georgia Institute of Technology*

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| <b>Course Title:</b>                             | Issues in Sustainable Construction Technology   |
| <b>Course No:</b>                                | BC 8833   |
| <b>Time and Location:</b>                        | Tuesdays 6:05pm to 8:55pm, Ford Environmental Science & Technology (ES&T) L1105   |
| <b>Prerequisites:</b>                            | NONE  |
| <b>Semester/Year:</b>                            | Fall 2009   |
| <b>Instructor(s):</b>                            | Javier Irizarry, Ph.D., P.E.  |
| <b>Assistant (if any):</b>                       | Masoud Gheisari; e-mail: <a href="mailto:masoud@gatech.edu">masoud@gatech.edu</a> , Office: CONECTech Lab Room 259D East Architecture Building  |
| <b>Office:</b>                                   | College of Architecture Annex (Building Constructing/GIS Building), Room 112  |
| <b>Office Phone:</b>                             | 404-385-7609; 678-480-6035 cell   |
| <b>E-mail Address:</b>                           | <a href="mailto:javier.irizarry@coa.gatech.edu">javier.irizarry@coa.gatech.edu</a>  |
| <b>Office Hours:</b>                             | By appointment (to make sure we will be able to meet).  |
| <b>Required Textbooks:</b>                       | None  |
| <b>Recommended Readings and References:</b>      | Green Building Fundamentals. Michael Montoya, Prentice Hall, 2010<br>Building Construction: Principles, Materials, and Systems, Mehta, Scarborough, and Armpriest, Prentice Hall 2009   |
| <b>Course Description, Goal, and Objectives:</b> | <p>An exploration of construction materials, methods and related</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> technologies in the broad context of residential and commercial</li> <li><input type="checkbox"/> building construction considering their sustainability implications.</li> <li><input type="checkbox"/> It is NOT assumed that students taking this course will have a</li> <li><input type="checkbox"/> understanding of advanced construction materials and systems. Basic</li> <li><input type="checkbox"/> construction technology will be covered in early classes. This course</li> <li><input type="checkbox"/> is not intended to be a substitute for LEED exam preparation as this</li> <li><input type="checkbox"/> is not the focus of the course. Students will have the opportunity to</li> <li><input type="checkbox"/> explore their own solutions to inefficient use of materials and methods.</li> </ul> <p>The goal of the course is to provide a broad background and general knowledge through the following objectives:</p> <p>To achieve a basic understanding of the materials and methods used in the residential and commercial segments of the construction industry.</p> <p>To understand the importance and implications of efficient material use in residential and commercial construction.</p> <p>To develop analytical skills needed for the evaluation of alternative means and methods to improve the sustainability of construction processes.</p> <p>To evaluate the economic implications of selecting and or implementing sustainable materials and practices.</p> <p>To become familiar with the LEED rating system for sustainable construction.</p> |

**Assignment and Evaluation:**

Final grades will be based on an aggregate point total for exams, homework, papers, and/or projects. **Grades will NOT be curved.** Course grading is as follows:

| <b>A</b>      | <b>B</b> | <b>C</b> | <b>D</b> | <b>F</b> |
|---------------|----------|----------|----------|----------|
| 90% and above | 80%-89%  | 70%-79%  | 60%-69%  | <60%     |

**Points:** The following table summarizes the points for this course. Make-up exams are not allowed for any reason. All grades will become final one week after they are returned in class or made available in T-Square.

| <b>Item</b>                       | <b>Percentage of Grade</b> |
|-----------------------------------|----------------------------|
| Project 1 (team)                  | 25                         |
| Project 2 (individual)            | 25                         |
| Homework (individual)             | 10                         |
| Quick Fire Tests (team)**         | 10                         |
| Final Research Paper (individual) | 30                         |
| <b>TOTAL</b>                      | <b>100</b>                 |

**\*\* Please see Supplemental Policies for description.**

## Course Schedule\*

| Class | Date  | Topic or Subject   | Homework/Project Due Date                      |
|-------|-------|--|--|
| 1     | 8-18  | Administrative Matters, Introduction and Course Overview, Basic Construction Materials and Methods             |  |
| 2     | 8-25  | Basic Construction Materials and Methods, Sustainability Perceptions and Material Selection (Florez-tentative) | HW1 Article Summary                            |
| 3     | 9-1   | Sustainability and the Building Industry, Design Considerations in Sustainable Construction                    |  |
| 4     | 9-8   | Cost Implications of Sustainable Construction (Gheisari)   | HW2 Article Summary                            |
| 5     | 9-15  | Case Study on LCC – <b>Work on Project 1</b>   | Final Paper Topic Due                          |
| 6     | 9-22  | Site Work and Sustainability (development)   | HW3 Article Summary                            |
| 7     | 9-28  | Water and Runoff Management  | Outline of Final Paper Due                     |
| 8     | 10-6  | <b>Fall Break</b>  |  |
| 9     | 10-13 | <b>Project 1 Presentations</b>   | Project 1 Short Report Due                     |
| 10    | 10-20 | <b>TBD</b>   |  |
| 11    | 10-27 | Energy and Power Systems   | HW4 Article Summary                            |
| 12    | 11-3  | <b>Guest Speaker (Sustainability and CM)</b>   |  |
| 13    | 11-10 | HVAC   | Draft of Final Paper Due                       |
| 14    | 11-17 | Water and Waste Systems  | HW5 Article Summary                            |
| 15    | 11-24 | <b>Thanksgiving (work on Project 2 and Final Paper)</b>  |  |
| 16    | 12-1  | <b>Project 2 Presentations</b>   | Project 2 Short Report Due                     |
| 17    | 12-11 | <b>Final Paper Presentations (Location to be confirmed)</b>  | Final Paper Due, including Presentation Slides |

**\*The Course Instructor reserves the right to modify the course schedule to better serve the needs of students.**

# COURSE POLICIES

In the following policies, 'you' indicates the 'student' and 'instructor' means 'faculty' or 'professor.'

**Policies and Expectations:** This course will be an intense and sometimes frustrating educational experience; it is necessary that we all contribute to its success by following the course policies. You should not only be in class, but also strive to participate in class discussions when appropriate.

**Assignment Deadlines:** All assignments given are due on the date indicated. All students are expected to complete any and all assignments given. The instructor reserves the right to modify assignments as necessary. **You will not receive credit for late assignments (homework, projects, readings, and others).** However, the instructor will accept and correct these assignments, in order to provide you with feedback that will be beneficial in the learning process. **NO EXCEPTIONS.**

**Class Attendance Policies:** Attendance is mandatory for all class lectures and exams, unless you are ill or officially excused by the instructor as the result of participation in a university function. There are no "free cuts" permitted and there will be a penalty (as decided by the instructor) for not attending the class. In the case of unavoidable absences, you are responsible for making up the work done in class. **It is not the instructor's responsibility to provide the student with that information outside of class.** It is your responsibility to obtain any missed information or handouts given in class from a classmate and you should exchange phone numbers or e-mail addresses with other students in the class to better facilitate note sharing, etc. No companions, friends, family, or pets are permitted in class.

**Methods of Communicating:** You can submit all written work to the instructor in class, in hard copy or by e-mail, if allowed by the instructor (the assignment must be received by the deadline given). You can also ask questions and ask for clarification by e-mail, in class, or by visiting the instructor by appointment. Students are not permitted to discuss grades with the instructor via e-mail, only in person.

**Method of Instruction:** The course may consist of a combination of lectures, discussion, guest speakers, presentations by industry professionals, and teamwork.

**Readings, Preparation and Participation:** The reading assignments, problems cases and discussion forums are an integral element of the course. Students are expected to complete readings and other assigned work prior to each class, in order to fully participate in the discussion. Learning is approached as a participatory process, which benefits from student/teacher and student/student interaction. The lectures may not explicitly follow the assigned book reading, but are designed to bring together diverse information from various sources.

**Laptop/Handheld Computer Use:** Laptop/handheld computers may be used in class to take notes ONLY, but not for other purposes, such as e-mail, Web site searches, chat, or other personal uses. Students using computers during class for work not related to that class must leave the classroom for the remainder of the class period. Abuse of this policy will result in the prohibition of laptop use by this student.

**Cell Phones:** All communication devices must be turned off in the classroom. The use of cell phones, beepers, or other communication devices is disruptive, and is therefore prohibited during class. No personal listening devices or personal transportation devices are permitted.

**Make-up Exams:** There will be no make-up exams under any circumstances, except medical reasons. Provide your instructor with a letter from your medical doctor to schedule a make-up exam.

**Food and Drink in the Classroom:** Students are not allowed to bring food or drinks into classroom unless approved by the instructor.

**Class Discussions:** Your active and productive participation in class discussions is encouraged. Various viewpoints and opinions are encouraged and welcome. Questioning the ideas of others, including the instructor, is similarly welcome. However, the instructor will exercise his/her responsibility to manage the discussions so that ideas and argument can proceed in an orderly fashion. If your conduct during class discussions seriously disrupts the atmosphere of mutual respect, you will not be permitted to participate further.

**Instructor's Absence or Tardiness:** If the instructor is late in arriving to class, you must wait a full 20 minutes after the start of class before you may leave without being counted absent, or you must follow any written instructions the instructor may give you about an anticipated absence or tardiness.

**Plagiarism:** Students are expected to do their own work in this course. To use another writer's or speaker's ideas without giving proper credit by means of standard documentation is plagiarism. All course papers, notes, homework, and projects submitted to the instructor are subject to textual similarity review for the detection of plagiarism. All submitted papers will be included as source

documents in the reference database for the purpose of detecting plagiarism of such papers. The instructor will follow the Institute's policy for plagiarism.

**Academic Misconduct/Honor Code:** Students in this course are responsible for behaving in accordance with the Georgia Tech Academic Honor Code. The Institute Student Honor Code is printed in the Georgia Tech General Catalog, as well as available on the Web at: [www.honor.gatech.edu](http://www.honor.gatech.edu).

**Disabilities:** Any student that may need an accommodation for any sort of disability should contact the ADAPTS Office: Assistant Dean/Coordinator for Students with Disabilities, Smithgall Students Services Building, Suite 221. The phone number is (404) 894-2564.

**Computer Specifications:** For information on computer specifications to meet Georgia Tech standards, visit [www.coa.gatech.edu/computing/comp\\_specs.htm](http://www.coa.gatech.edu/computing/comp_specs.htm). Internet access is required for this course, as is an e-mail account for communication with the instructor.

**Policy Changes:** Information contained in the course syllabus, other than the grade and absence policies, may be subject to change with reasonable advance notice, as deemed appropriate by the instructor.

### **Supplemental Policies:**

The following supplemental policies (if any) will supersede the previous policies listed above, at the discretion of the instructor.

#### **Quick Fire Tests:**

These are unannounced class problems related to lecture and assigned reading materials. Students will work in teams during class time to solve a problem given during class. Students will be required to present their solutions during class. These are **open book (or references) and open notes**. Due to the nature of these tests, make ups **will not be given**. If you miss a Quick Fire, the ones taken will be weighted to count for **the total of all Quick Fire points**.

#### **Grade Revision Requests:**

Any request for grade revision must be made in writing (typed and using formal language written like a business letter) and delivered to the course instructor or to department personnel in person (**no email, no fax**) before the one-week deadline. After the one-week deadline, students waive their rights for appeals. The request for grade revision must include the name of the student, the assignment or test in question, description of the item in question, and the reasons for requesting the revision. Students must present their argument clearly and substantiate with evidence. The course instructor will evaluate the request and take appropriate action.

#### **Course Management:**

T-Square will be used for managing this course. All communications will be done using this system. Email may be used for other questions of a more individual or personal nature (grades and absences mainly). Please make sure that you include BC8833 in the subject line so my email filters identify the message. All course material will be available in the system as well as all grades for all work related to this course. Electronic communication by any other means will not be accepted. Allow **24 hrs** for a reply to your e-mail message. **E-mails that are received after 2:00pm on Friday will be answered on the following Monday.**