McWhorter School of Building Science
BSCI 7136: Building Construction Sustainability
Summer 2014

Instructor Information

Instructor: Jacqueline Thompson
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Text Books and Resources

Required Text: Kibert, Charles, J. (2013). Sustainable Construction: Green Building Design and Delivery. John Wiley & Sons, Inc. Hoboken, New Jersey.

Online: This is a Canvas supported course; additional materials and information will be posted on the Canvas site.

Course Objectives

After completion of this course the student will be able to:

- Define key terms of sustainability
- Identify and apply green building assessment tools to evaluate the sustainability of a building
- Interpret green building requirements related to the site, water, air quality, energy consumption and materials and resources.
- Evaluate first cost versus life cycle cost for sustainable construction materials and methods

Course Grading

A	100 to 90.00
B	89.99 to 80.00
C	79.99 to 70.00
D	69.99 to 60.00
F	59.99 and below

** At the professor's discretion individual assignments/test may be curved on a uniform basis by a normal distribution curve.*

Course Evaluation

Students will earn grades for the following elements.

Opinion Essay	15%
Project 1: LEED Project Analysis	20%
Project 2: Other Green Building Tools	20%
Project 2: Material Analysis	20%
Test	20%
Attendance/Participation	5%
Total	100%

Course Requirements/Policy Statements

Participation/Attendance:

Class attendance is *required*. More than 2 unexcused absences will result in a letter grade reduction for the final course grade. More than 3 unexcused absences during the semester will result in a two-letter grade reduction for the final course grade. Make up exams/quizzes will be given for excused absences only. Absences will be excused

in accordance with University Policy as stated in the Auburn Tiger Cub. Written documentation for excused absences must be emailed to the instructor prior to the first class period following the absence; otherwise, the absence is not excused.

Assignments:
All student work shall be completed in accordance with the Student Academic Honesty Code, as stated in the Auburn Tiger Cub. **IF AN ASSIGNMENT IS LATE, A PENALTY OF ONE LETTER GRADE PER DAY WILL BE ASSESSED.**

Communications:
You will be notified of any new class requirements or changes via email or Canvas. You are responsible for being aware of these notifications; therefore, check your student email account and Canvas daily.

Academic Honesty Policy:
The university and this professor expect students to pursue their academic work with honesty and integrity. All portions of the Auburn University student academic honesty code (Title XII) found in the Tiger Cub will apply to this class. All academic honesty violations or alleged violations of the SGA Code of Laws will be reported to the Office of the Provost, which will then refer the case to the Academic Honesty Committee.

Disability Accommodations:
Students who need accommodations are asked to electronically submit their approved accommodations through AU Access and arrange a confidential meeting with the instructor during first week of classes. If you have not established accommodations through the Office of Accessibility, but need accommodations, make an appointment with the Office of Accessibility, 1228 Haley Center, 844-2096 (V/TT).

Instructor's Syllabus Qualification:
The syllabus and information contained herein may be changed during the semester at the discretion of the instructor. Students will be notified in a timely manner of any changes.

Assignment Details:

Opinion Essay: Sustainability and the Built Environment

The objective of this essay is to first demonstrate your understanding of sustainability and secondly, to discuss the current and future state of the construction industry as it relates to meeting the goals of sustainability.

Make sure your essay includes the following items:

1. Demonstrate your understanding of the concept of sustainability.
2. Discuss the current state of construction as it relates to sustainability. What impact does construction have on sustainability? Are there areas that construction successfully addresses sustainability? Are there areas where improvement is needed?
3. Share your opinion of how the construction industry must adapt to become more sustainable.

Project 1: LEED Project

Prior to the residency week, identify a project to conduct a LEED analysis. Make sure you have access to the plans and specifications. You will review the plans and specifications to analyze the project on how it rates using the LEED green building assessment tool. Evaluate how the current project rates on the LEED rating system and then identify areas where the project could achieve more points. Suggest strategies that can be applied to achieve more LEED points.

Project 2: Alternative Green Building Assessment Tool

Using the same project you conducted your LEED analysis, choose an alternative green building rating system to analyze your project. Examples of other green rating assessment tools are Living Building Challenge, Green Globes, BREAMM. Score your building using the alternative rating system. How did the building score? How do the results of this analysis match with the LEED analysis? Is one rating system better than the other?

Project 3: Analysis of Green Building Material or Technology

Identify a green building material and discuss how sustainable the product is while considering some of the following factors: life cycle impact of the product, first costs versus life cycle costs, natural resource consumption, deconstructability, constructability, waste generation, recyclability, the embodied energy, etc. Discuss both the positive and negative sustainability factors and answer the question “how sustainable is this product”.

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Tentative Class Schedule:

Date	Topic	Reading	Due
5/19/14	Introduction	Ch. 1 Introduction, Ch. 2 Background	Watch: The Story of More: Richard Heinberg at TEDxSonomaCounty https://www.youtube.com/watch?v=DK7R4ZCbd_E. Watch, no submission required.
5/26/14	Green Building Tools	Ch. 4 Green Building Assessment, Ch. 5 LEED	Watch: Green Builders http://video.pbs.org/video/1088152802/. No Submission required
6/2/14	Sustainable Site and Water Efficiency	Ch. 8 Sustainable Sites, Ch. 10 Water	Go to http://www.myfootprint.org and take the ecological footprint quiz to determine your footprint. No submission required.
6/9/14	Energy Consumption and Carbon Footprint	Ch. 9 Energy and Carbon Footprint	Watch Richard Heinberg: Peak Oil and the Globe's Limitations http://www.youtube.com/watch?v=MeRTCepmkqQ
6/16/14	Materials and Resources, Waste Generation, and Indoor Environmental Quality	Ch. 11 Materials, Ch. 12 Indoor Environmental Quality	
6/23/14	Introduction and Background		Opinion Essay Due
6/24/14	Strategies for achieving site and water sustainability		
6/25/14	Strategies for achieving water efficiency and indoor air quality		
6/26/14	Presentations and Conclusions		Project 1 Due
7/3/14	Learning from Nature. Systems Thinking, Industrial Ecology, Biomimmicry		
7/10/14	Project Discussion, Renewable Energy, High Performance Building Movement		Project 2 Due
7/17/14	Passive Design, Design for Destruction		
7/24/14	The other parts of sustainability: Social and Economics		Test and Project 3 Due