

CEM 162 - Spring 2012 - Section # 74285

SUSTAINABLE BUILDINGS, HOME PERFORMANCE AND THE ENVIRONMENT

Instructor: Steve Murphy	Class Time: Tuesday 6:00-9:10 PM
Office Hrs: Tues 5:30-6:00 & 9:10-9:30PM	Office Location: Classroom (HORT 5005)
Instructor Office Ph#: (408) 869-8326	
Instructor e-mail address:	stmurphy@cabrillo.edu
Class Website:	http://www.cabrillo.edu/~smurphy/CEM162.html

TEXT: "Green From the Ground Up: Sustainable, Healthy and Energy-Efficient Home Construction (Builders Guide)"

By David Johnston and Scott Gibson; published by The Taunton Press, copyright 2008; \$24.95 list price.

ISBN # 978-1-56158-973-9

RECOMMENDED TOOLS:

- Internet access for course materials
- Calculator
- 3-ring binder for Class "Notebook"

CLASS SCHEDULE

DATE	TOPIC/COURSE ACTIVITIES LECTURES & DISCUSSIONS	HOMEWORK & Reading (NOTE: ASSIGNMENTS DUE AT FOLLOWING WEEK'S CLASS)
Feb 7	Introductions, Course Syllabus/Website, Intro to textbook/class topics. Class "Notebook" review Class website review http://www.cabrillo.edu/~smurphy/CEM162 SMALL GROUP set-up (6-8 people MAXIMUM per group)	GET TEXTBOOKS Find article in magazine, newspaper or off internet on "Sustainable Construction". Write a single page critique of the article (CURRENT EVENT ARTICLE #1) to turn-in and also discuss at next class. Summary should express your opinion of the article content...NOT JUST A SUMMARY OF THE ARTICLE CONTENT. THIS IS IMPORTANT!!
Feb 14	SMALL GROUP DISCUSSION of Current Event Article #1 <i>Introduction to Sustainable Construction</i> Textbook Review	ARTICLE REVIEW #1 DUE Read Textbook- Ch 1 - 3 & 7 See website on window

	<p>KEY REGISTRATION NOTES:</p> <ul style="list-style-type: none"> • must be registered for course by Feb 18th • Last day to drop and get full refund- Feb 18th 	<p>selection www.efficientwindows.org</p>
Feb 21	<p>Whole building design, site selection, passive solar fundamentals, building envelope components</p> <ul style="list-style-type: none"> • Heat transfer • R-values of building materials • Window properties 	<p>Review LOCAL Energy Upgrade California website www.ecoact.org/Programs/Climate/EUC/index.html</p> <p>STUDY FOR QUIZ</p>
Feb 28	<p>Energy Upgrade California GUEST SPEAKER: Ecology Action</p> <p>QUIZ #1 (text Chapters 1 - 3 and 7; class lecture notes)</p> <p>KEY REGISTRATION NOTE: Last day to drop without "W" on record- Mar 4</p>	<p>Read Ch 4, 5, 6 & 15 in textbook</p> <p>1 page summary of newspaper/periodical article (Current Event Article #2)</p>
Mar 6	<p>SMALL GROUP DISCUSSION</p> <p>Sustainable Building materials/alternate construction methods:</p> <ul style="list-style-type: none"> • Framing • Finish materials • Certified wood • VOC's <p>KEY REGISTRATION NOTE: Last day to take course P/NP- Mar 9th</p>	<p>ARTICLE REVIEW #2 DUE</p> <p>Review Green Construction Checklists for "LEED V3/2009" and CALGreen Companion Guides".</p>
Mar 13	<p>Building/Home "GREEN" Rating Systems:</p> <ul style="list-style-type: none"> • CALGreen- RESIDENTIAL • CALGreen- NON RESIDENTIAL • LEED V3- BD&C; EBOM 	<p>STUDY FOR QUIZ</p> <p>Review Build-It-Green "GreenPoint Rated" checklists www.builditgreen.org</p>
Mar 20	<p>Build-It Green/GreenPoint Rated</p> <p>QUIZ #2 (text Chapters 4, 5, 6 and 15; class lecture notes)</p>	<p>Read Ch 14 of textbook</p>
Mar 27	<p>Build-It-Green/GreenPoint rated (cont)</p> <p>Home Performance Contracting Building Performance Institute (BPI) Certification GUEST SPEAKER:</p>	<p>Study/get organized for MIDTERM</p>
Apr 3	<p>MIDTERM</p>	

Apr 10	SPRING BREAK	Read Ch 10 of textbook Review City of Santa Cruz Green Building regulations.
Apr 17	City of Santa Cruz/Build-it-Green Guidelines <u>GUEST SPEAKERS:</u> Jen Warner & John Ancic/City of Santa Cruz Electrical/lighting systems efficiency, day-lighting, electrical power metering	1 page summary of newspaper/periodical article (Current Event Article #3) Read Ch 9 of textbook
Apr 24	SMALL GROUP DISCUSSION Building/home heating and cooling systems Solar Thermal and radiant floor heating systems,	ARTICLE REVIEW #3 DUE Read Ch 8 and 16 of textbook STUDY FOR QUIZ
May 1	Water usage, plumbing fixture efficiency, appliance efficiency, tankless water heaters QUIZ #3 (text Ch 9, 10 and 14; class lecture notes) KEY REGISTRATION NOTE: Last day to withdraw from course- May 19 th	
May 8	FIELD TRIP- Kirsch Center for Environmental Studies DeAnza College- Cupertino OR Cabrillo/Watsonville Tech Center	Small group work on final project 1 page summary of newspaper/periodical article (Current Event Article #4) STUDY FOR QUIZ
May 15	SMALL GROUP DISCUSSION Economic analysis, utility incentive programs for Green Building. QUIZ #4 (text Ch 8 and 16; class lecture notes)	ARTICLE REVIEW #4 DUE Read Ch 13 of textbook Check website www.gosolarcalifornia.org
May 22	Alternative/renewable energy systems/ California Solar Initiative- current status SMALL GROUP PRESENTATIONS I Each SMALL GROUP to present 20 minute MAXIMUM "Sustainability/Green Building" report on residential/light commercial building retrofit.	Small group work on presentations.

May 29	SMALL GROUP PRESENTATIONS II Each SMALL GROUP to present 20 minute MAXIMUM "Sustainability/Green Building" report on residential/light commercial building retrofit.	
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EXAMS & GRADES:

Grades are based on the following:

- Attendance/Participation- 10%
- Class Notebooks- 10%
- Current Event Articles- 20%
- Quizzes/MIDTERM 40%
- Final Project/Presentation- 20%

If you desire the pass/no-pass option rather than a letter grade, the deadline for doing this is **March 9, 2012**.

PASS/NO PASS OPTION:

For this option, **students have to complete the following MINIMUM guidelines to receive a PASSING grade:**

- Attendance/participation at 12 out of the 16 class sessions
- Achieve score of 70% or better on class notebook
- Achieve average score of 70% on all quizzes/midterm
- Achieve score of 70% on final class project
- Makeup assignments can be turned in for "extra credit" to offset deficiencies in any of the above 4 grading categories.

EXTRA CREDIT OPPORTUNITIES:

Students can earn extra points by completing the following work:

1. Additional "**Current Event**" articles
2. Independent Field Trips to Sustainable Construction project of your choice. Students are required to have photograph taken of them at the site and to turn in a "**Top 10 List**" of sustainable construction attributes of the site. "**Top 10 List**" should include a few paragraphs about why this building sustainable feature made the list; list should be ranked in order of priority that **YOU** would recommend implementing on other projects.

STUDENTS WITH DISABILITIES:

I encourage students with disabilities to explain their individual needs to me during office hours (listed above). Please bring verification of your disability (from the Learning Skills or DSP&S office and counselor and/or specialist's recommendations) so that I may assist you in accommodating your needs.