

# CE 499 - Sustainable Methods in Construction

## Summer 2018

### Reference Textbooks

No textbook is required. You will be using course handouts and board notes.

**Course Description** This course covers the basic concepts of sustainability in construction, through the study of contemporary sustainable construction methods and best practices. The course will address site management and land use, sustainable water engineering, indoor environmental quality, and basics of life-cycle-cost assessment. Emphasis is placed on the use of U.S. Green Building Council's Leadership in Energy and Environmental Design standards to evaluate alternatives and select techniques for constructing sustainable projects.

**Course Objectives** After successfully completing this course the students will be able to:

1. Define key terms of sustainability
2. Identify and apply green building assessment tools to evaluate the sustainability of a building
3. Interpret green building requirements related to the site, water, air quality, energy consumption and materials and resources
4. Evaluate first cost versus life cycle cost for sustainable construction materials and methods
5. Interpret current thinking about Sustainable Development and Sustainable Construction in the economic sector known as the Built Environment
6. Understand worldwide efforts in Sustainable Development and Sustainable Construction.

**Grading** Grading will be based on assigned homework, a project, and exams. The final grades for the course will be based on the following percentages:

Homework	20%
Midterm Exam	40%
Final Exam	40%

**Attendance** You are expected to attend each class and to arrive either early or on-time so as not to disrupt the class once it is in session. If you miss a class, it is your responsibility to find out if there have been any changes to the reading, homework assignments, or exam dates.

**Make-up Exams** If any exam is missed you must have a valid written excuse before you will be allowed to take a makeup exam. A grade of zero will be assigned on an exam that is missed if the makeup exam is not taken within the grace period.

**Homework** Homework assignments and due dates will be announced in class. Homework assignments are due at the beginning of class, BEFORE lecture begins. Any assignment submitted after lecture begins on the date it is due will be considered late and will receive a 10% deduction. Homework assignments will NOT be accepted outside of class on or after the due date except for special circumstances. Each student may submit ONE scanned and emailed assignment during the quarter without penalty if received prior to the beginning of class on the date it is due. An electronic submission received during class time on the date assignment is due will receive a 10% penalty. An electronic submission received after class ends on the date assignment is due will NOT be accepted, except for special circumstances.

**Academic Integrity and Student Conduct** There is a zero tolerance policy on cheating. Student assumes responsibility for every assignment and exam that he/she submits. You are expected to be courteous and respectful of others in the classroom at all times. All cell phones must be turned off while the class is in session. If you require special accommodations or have concerns or questions about being able to meet the requirements of this course, I am available to meet with you personally. In accordance with departmental procedures, these policies will be strictly enforced in this class.

## Tentative Class Schedule

Week	Period	Subjects
1	01	Introduction: Learning from Nature. Systems Thinking, Industrial Ecology, Biomimicry
2	02	Sustainability principles in US: Green Building Tools, Economics of green buildings,
	03	Sustainability principles in Germany
	04	Team presentations about US/German perspectives about sustainability principles
	05	Waste Generation Energy Consumption and Carbon Footprint
3	06	Water Engineering and Urban Water Management
	07	(cont'd)
	08	<i>Midterm exam</i>
4	09	Site Management Landscaping, Land use Strategies for achieving site and water sustainability
	10	(cont'd)
	11	Indoor Environmental Quality Strategies for achieving water efficiency and indoor air quality
5	12	(Cont'd)
	13	Life-Cycle-Cost Assessment
	14	(Cont'd)
		<i>Final exam</i>