

CEM 550 – Contemporary Topics in CEM.

Four credit hours

Fall Term

One four –hour session, timed to coincide with Business coursework.

Location to be determined

Instructor:

Dr. David N. Sillars

Owen 213

Office hours to be announced

Office phone: 541.737.8058

Email: david.sillars@oregonstate.edu

Prerequisite:

Graduate Standing, and

CEM or CE degree or 3 yrs prof. constr. experience/ OR

Instructor Approval

Reference materials

Primary text (Required)

Selected readings drawn from current journals, including:

Journal of Construction Management and Engineering

Journal of Engineering Management

Journal of Architectural Engineering

Construction Business Review

Journal of the Associated Cost Engineers

And others

Other references:

To be determined

Course Description

Course will cover contemporary topics of emerging technologies and processes in construction engineering and management, how industry environmental change causes development of new technologies, and the applications of the technologies in the field. Topics will vary from term to term, and will be drawn from current research and innovative techniques developed in the field.

Course Objectives

The student will develop an understanding of:

1. The concept of change in the mature construction industry;
2. Environmental changes that currently or will affect the industry;
3. Understand technologies under development to address those changes; and
4. Understand how to identify future changes and how to react to those changes.

Calendar

WK	Topic	Objective
1	Contemporary topics overview Mature vs. emerging industries	1
2	The relationship between the construction industry and its environment The relationship between the individual firm and others in the industry	1,2,4
3	Historical environmental changes Current environmental changes	1,2,4
4	Topic 1: Emerging technologies: Three-dimensional graphic interfaces	2,3
5	Topic 1: Emerging technologies: Building materials for the 21 st century	2,3
6	Topic 2: Projected industry labor shortages: Robotics	2,3
7	Topic 2: Projected industry labor shortages: Factory-manufactured and modular construction	2,3
8	Topic 3: Environmentally-sound building practices: Sustainability	2,3
9	Topic 3: Environmentally-sound building practices: Mold in building construction	2,3
10	Topic 4: Electronic collaboration – Changing the paradigm Barriers to introduction of change; change management	2,3,4
FINAL		

Course Requirements/ Grading

Grade evaluations will be based on the following weighting:

Assignments and Quizzes:	25%
Mid-term exam:	25%
Final exam:	25%
Term project:	25%

Classroom lectures, presentations, and in-class group discussion are in integral part of the course; therefore, attendance is considered mandatory to obtain full benefit of the course.

Tardiness is disruptive and inconsiderate of those in attendance.

In-class participation is a key element in the learning experience. Each student is expected to share experiences and participate in the exploratory and analytical portions of the class.

Other

Syllabus may be adjusted during the term to accommodate guest speakers, etc..

Quizzes or exams may be given in-class or using the Blackboard or other electronic system. Students are expected to be familiar with the use of Blackboard for such quizzes or other class communication.

Missed exams and assignments will be counted as no points in the final grade, unless prior arrangements have been made. Any request to change the time of an examination should be presented at least two weeks in advance of the exam date. Students need to be aware that rescheduling the Final Examination may not be possible even for the most meritorious reasons. Approvals are normally limited to the following reasons.

- a) Conflict with working hours on a job that has been held consistently during the term, and for which working schedules cannot be readily adjusted, despite a sincere attempt by the student to reschedule the working hours. Example: driving a school bus;
- b) Religious reasons;
- c) Four finals in one day, where amicable agreement cannot be reached by the student and the other instructors;
- d) Military obligations verified in writing. Example: military orders, preinduction physical; and
- e) Other exceptional hardship cases.

Petitions for reasons of personal convenience are generally not approved.

Students with documented disabilities who may need accommodations, who have any emergency medical information the instructor should be aware of, or who need special arrangements in the event of evacuation, should make an appointment with the instructor as early as possible, and no later than the first week of the term. Class materials will be made available in accessible format upon request.