SYLLABUS

CE 482: Foundation Design (3 units)

Fall 2007, Mondays and Wednesdays 5-6:15 pm

Instructor	Carl C. Kim	Phone	213.542.1681 office 213.631.6006 mobile
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Text:

- *Soil Mechanics in Engineering Practice, 3rd Edition*, by Terzaghi and Peck, John Wiley & Sons, Inc., New York, New York, 1996.
- *Naval Facilities Engineering Command Design Manual 7.02, Foundations & Earth Structures*, US Navy, 1986.

Description:

Theory and application of soil mechanics in foundation design.

Goals:

- Review fundamental principles of soil mechanics.
- Review methodologies to obtain soil behavior information.
- Learn to apply soil mechanics in foundation design.
- Use available design tools for foundation design.
- Develop writing skills for consulting reports.
- Master geotechnical portion of PE exam.

Requirements:

Soil Mechanics

Evaluation:

Reports (Homework/Projects) – 40%

Midterm Exam – 20%

Final Exam – 30%

Class Participation – 10%

Grades:

A $\geq$ 85%

B $\geq$ 75%

C $\geq$ 65%

D $\geq$ 50%

F < 50%

Policies:

Attendance: Regular attendance will not be taken. However, examination questions will include items covered in lectures that are not covered in the textbook or other distributed notes. The student is responsible for all announcements and material covered in class.

Class Conduct: Disruptive behavior will not be tolerated. Students may work in groups but deliverables must be prepared independently. Cheating of any kind on homework, projects, and exams will not be tolerated. Students who violate university standards of academic integrity are subject to disciplinary sanctions, including failure in the course and suspension from the university. Since dishonesty in any form harms the individual, other students and the university, policies on academic integrity are strictly enforced. Students must familiarize themselves with the academic integrity guidelines found in the current student handbook.

Late work: Homework and project reports are due at 5:10 pm on the due date. Late submittals will not be accepted or graded.

Disability: If you will be requesting an accommodation, please provide the instructor with an official Accommodation Letter as early as possible in the term.

Course Schedule:

Week	Topic	Suggested Reading (T&P)
1 – 8/27/07	Introduction / Geotechnical Engineering	
1 – 8/29/07	Index Properties of Soils / Soil Exploration	Chapters 1 and 2
2 – 9/3/07	Labor Day	
2 – 9/5/07	Mechanical Properties of Soils	Chapter 3
3 – 9/10/07	Plastic Equilibrium	Chapter 5 (Art. 26-32)
3 – 9/12/07	Plastic Equilibrium II	Chapter 5 (Art. 33-38)
4 – 9/17/07	Ground Improvement	Chapter 7
4 – 9/19/07	Retaining Walls	Chapter 8 (Art. 45, 46)
5 – 9/24/07	Open Cuts	Chapter 8 (Art. 46)
5 – 9/26/07	Slope Stability	Chapter 8 (Art. 47)
6 – 10/1/07	Embankments	Chapter 8 (Art. 48)
6 – 10/3/07	Application of Plastic Equilibrium	Review Chapter 5
7 – 10/8/07	Midterm Review	
7 – 10/10/07	Midterm Examination	
8 – 10/15/07	Proposals / Design Project I	
8 – 10/17/07	Design Project I	Presentations
9 – 10/20/07	Design Project I	Discussion
9 – 10/24/07	Footings	Chapter 9 (Art. 49, 50)
10 – 10/29/07	Mats	Chapter 9 (Art. 51)
10 – 10/31/07	Piles	Chapter 9 (Art. 52, 53)
11 – 11/5/07	Spring Constants	Handout
11 – 11/7/07	Design Project II	Proposal
12 – 11/12/07	Design Project II	Presentation
12 – 11/14/07	Settlement Problems	Chapter 10
13 – 11/19/07	Corrosion	Handout
13 – 11/21/07	Dams	Chapter 11 (Art. 57, 58)
14 – 11/26/07	Dams II	Chapter 11 (Art. 59, 60)
14 – 11/28/07	Forensic Engineering	Handout
15 – 12/3/07	Forensic Engineering II	Presentations
15 – 12/5/07	Review Session for Final Exam	

Final Examination: Wednesday, 12/12/07 @ 4:30 – 6:30 pm