



Syllabus  
CE 335 Engineering Mechanics of Soils  
Spring 2007

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Lecture: MWF 11:15am – 12:05pm  
108 Henderson

Office Hours: MW 1:30 – 3pm, or by appointment

ANGEL: <https://cms.psu.edu/frameIndex.htm>  
The ANGEL system will be used for communication, postings, and other course-related items as the need arises.

Text: *Principles of Geotechnical Engineering*, 6th ed., B.M. Das,  
Brooks/Cole, Thomson Learning, Inc., 2006, ISBN: 0-534-55144-0.

Prerequisites:

1. EMCH 013 Strength of Materials
2. GEOSC 001 Physical Geology or AE 221 Architectural Building Materials

Grading Policy

Homework <sup>a</sup>	35%	Bi-Weekly Quizzes <sup>b</sup>	55%
In-Class Participation <sup>c</sup>	10%		

<sup>a</sup>Homework assignments are due two weeks from the assignment date and must be turned in at the beginning of class – late assignments will not be accepted.

<sup>b</sup>Quizzes will be given at the beginning of class and will be closed book and closed notes. The quizzes will include questions based on the reading assignments and lectures.

<sup>c</sup>In-class participation will consist of in-class example problems and interaction with the guest speaker.

Letter grades will be based on the weighted average specified above and assigned as follows:

A = 94-100%	B+ = 87-89%	C+ = 76-79%	D = 60-69%
A- = 90-93%	B = 84-86%	C = 70-75%	F < 60%
	B- = 80-83%		

Every student is responsible for upholding the academic integrity policy. **Any student caught cheating on any assignment will receive a grade of zero for that assignment.** For more information on academic integrity, see <http://www.engr.psu.edu/CurrentStudents/acadinteg.asp> or <http://www.psu.edu/dept/oue/aappm/G-9.html>

## On-Line Class Participation

All course emails and web postings will be made using the ANGEL course management software. You will need to regularly login (<https://cms.psu.edu/frameIndex.htm>) to check course announcements and access posted homework and solutions.

**Important: When you 1<sup>st</sup> login into the system you must configure “My Settings” to forward course emails to your primary email account as follows:**

- Step 1: Login into system
- Step 2: Click “My Settings”
- Step 3: Click “System Settings”
- Step 4: Type your PSU Email under “Forwarding Address” and set “Forwarding Mode” as shown below:

**Forwarding Address**  
email@engr.psu.edu

**Forwarding Mode**  
Forward my course mail and keep as new in course

Save Cancel

Step 5: Click “Save”. You now should receive all course announcements in your primary email account as well as your ANGEL account.

## Course Goals

Evaluation of Engineering Properties of soils and Theoretical Analyses to predict behavior by:

1. Identifying the basic characteristics and properties of single particles and particle systems (e.g. soils)
2. Understand the steady-state flow of water through soils
3. Understand the concept of effective stress in soils
4. Understand stress-strain behavior of soils
5. Apply soil mechanics concepts to stability and settlement analyses
6. Understand typical techniques of subsurface exploration

## Course Schedule (subject to change)

Week/Date	Lecture	Topic	Reading	Assignment/Quiz
1/Jan 17	1	Introduction; Soil Deposits; Soil Composition	13-20	
1/Jan 19	2	Characteristics of Soil Particles; Soil Types	22-29; 43-44	
2/Jan 22	3	Mechanical Analysis	20-22; 30-42	
2/Jan 24	4	Mechanical Analysis cont'd Phase Relationships	49-67	HW 1 Assigned
2/Jan 26	5	Phase Relationships cont'd; Soil Structure	68-82; 82-86	
3/Jan 29	6	Soil Classification	90-103	
3/Jan 31	7	Soil Classifications cont'd		Quiz 1
3/Feb 02	8	Soil Capillarity	248-251	
4/Feb 5	9	Water Flow in Soils; Permeability	156-192	
4/Feb 7	10	Permeability cont'd		HW 1 Due; HW 2 Assigned
4/Feb 9	11	Permeability cont'd		
5/Feb 12	12	Seepage Analysis	198-209; 213-214	
5/Feb 14	13	Seepage cont'd		Quiz 2
5/Feb 16	14	Guest Speaker		
6/Feb 19-21	15-16	<b>No Classes</b>		
6/Feb 23	17	Effective Stress – No Seepage	227-232; 251-253	HW 2 Due; HW 3 Assigned
7/Feb 26	18	Stresses with Seepage	232-244	
7/Feb 28	19	Stresses on a Plane	258-265	Quiz 3
7/Mar 02	20	Stresses on a Plane cont'd		
8/Mar 05	21	Stresses Due to Load	265-297	
8/Mar 07	22	Stresses Due to Load cont'd		HW 3 Due; HW 4 Assigned
8/Mar 09	23	Soil Compaction	106-138	
9/Mar 12-16	24-26	<b>Spring Break – No Classes</b>		
10/Mar 19	27	Soil Compaction cont'd		
10/Mar 21	28	1D Consolidation	312-339	Quiz 4
10/Mar 23	29	1D Consolidation cont'd		
11/Mar 26	30	Time Rate of Consolidation	340-353	
11/Mar 28	31	Time Rate cont'd		HW 4 Due; HW 5 Assigned
11/Mar 30	32	Shear Strength of Soils	374-408	
12/Apr 02	33	Shear Strength of Soils cont'd		
12/Apr 04	34	Shear Strength Testing		Quiz 5
12/Apr 06	35	Shear Strength Testing cont'd		
13/Apr 09	36	Bearing Capacity of Shallow Foundations	601-630	
13/Apr 11	37	Bearing Capacity cont'd		HW 5 Due; HW 6 Assigned
13/Apr 13	38	Bearing Capacity cont'd		
14/Apr 16	39	Lateral Earth Pressure	436-494	
14/Apr 18	40	Lateral Earth Pressure cont'd		Quiz 6
14/Apr 20	41	Lateral Earth Pressure cont'd		
15/Apr 23	42	Lateral Earth Pressure cont'd		
15/Apr 25	43	Slope Stability Analysis	533-573	HW 6 Due; HW 7 Assigned
15/Apr 27	44	Slope Stability Analysis cont'd		
16/Apr 30	45	Slope Stability Analysis cont'd		
16/May 02	46	Subsurface Exploration	652-674	
16/May 04	47			HW 7 Due; Quiz 7