NJIT New Jersey's Science & Technology University

DEPARTMENT OF CIVIL AND ENVIRONMENTAL ENGINEERING

CE 443-141 Foundation Design - Summer 2017

General Course Information

Instructors: **Matthew Riegel, P.E.**
Office: Colton Hall Rm. 261 Thur. 5:30 – 7:30
e-mail: mdriegel@hntb.com 973-632-7541 (Cell)
Outside office hours please contact me via e-mail or cell phone.

Text: Principles of Foundation Engineering 8th ed; Das, 2014
Cengage Learning ISBN:978-1-305-08155-0

Summer 2017: Tue and Thur 6:00 pm - 9:00 pm CKB 212 *Prerequisites: CE 341, CE 341A.*

Week	Date	Topic
1	5-23	Review of Soil Mechanics and Geotechnical Investigations
2	5-25	Shear Strength and Bearing Capacity Theory
3	5-30	Application of Bearing Capacity Theory
4	6-1	Bearing Stresses and Elastic Settlement
5	6-6	Consolidation Settlement
6	6-8	Design of Shallow Foundations
7	6-13	Midterm Examination
8	6-15	Lateral Earth Pressure
9	6-20	Lateral Earth Pressure and Design of Retaining Walls
10	6-22	Design of Retaining Walls
11	6-27	Pile Foundations- Types and Installations
12	6-29	Pile Capacity and Settlements
	7-4	**No Class**
13	7-6	Design/Construction of Pile Groups
14	7-11	Design/Construction of Drilled Shafts
15	7-13	Final Exam

Attendance:

Attendance: Attendance and class participation are mandatory. If you are unable to attend instructor should be informed prior to the class. It is your responsibility to obtain the materials presented and submit homework as assigned on the date due. It is suggested you contact a fellow student to provide you with the materials missed.

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Grading: Your overall grade will be based on the following:

- 10% Quizzes
- 30% Written Homework Assignments
- 30% Midterm Grade
- 30% Final Grade

The final grade will be as follows:

A	90-100
B+	85-89
B	80-85
C+	74-79
C	70-73
D	60-69
F	<59

Policy: All assignments will be collected on the due date prescribed; if you are absent it is your responsibility to submit the assignment on that date. Late homework will be subjected to a 50% reduction in grade for the week following its due date assignments submitted later than one week beyond the date due will not receive credit.

Mobile Phones, beepers and laptops must be turned off during class. You must bring your textbook and a calculator to the class. Students should read the chapter related to the topic that will be covered before the class.

A quiz will be given each day at the beginning of each class based on each material covered in the previous class and from the reading assignments. There are no make-up quizzes and a missed quiz will receive a grade of 0. A grade of 70% is a minimum quiz passing grade. Any student that fails and/or does not take a total of four quizzes for evening class and eight quizzes for day time class will receive a failing grade for the course.

Written assignments are to be submitted in class on paper ON OR BEFORE the due date. All examinations open book, open notes.

All examinations will be open book, open notes. Computers and cell phones will not be permitted. Bring your own paper to exams.

5 full points from your final grade will be deducted if a cellphone is used during class; please step out to use phone if it is an emergency. You would not start using your phone in the middle of an important meeting at work- only one warning will be given.

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Extra Credit: Optional assignments may be available during the course as extra credit. Extra credit assignments which are completed will be worth up to 5 full points added to your final grade. Problems assigned will be based on actual design problems encountered in practice by the instructor. Topics may include but are not limited to:

1. Shallow footing design (sonotube, ringwall, or conventional spread footing)
2. Pile design for marine structure, airport terminal, or warehouse building
3. Design of reinforced segmental block retaining wall (internal and global stability)

All homework assignments shall be submitted with a short Memorandum, generally of one to two (maximum) pages of text with accompanying figures, tables, drawings, calculations, etc. The memorandum should be typed (hand written submittals will not be accepted, however handwritten calculations are acceptable). The following information shall be included:

1. Your name
2. Date
3. Course Title and Number
4. Person to whom it is being submitted.
5. A brief statement of the assignment purpose (what was requested, who authorized it and what you did).
6. Reference to any drawings, figures, charts etc. – identify and important information that they contain.
7. Description of what information was obtained and used to solve the problem.
8. Important results clearly identified.
9. Appropriate conclusions and recommendations, if required.
10. All sources cited
11. If you assume soil property value you need provide a justification and cite your source.

Additional Requirements and Notices:

A. Bring your textbook and a calculator to each class.
B. Students should read the chapter related to the topic that will be covered in the class before the class
C. Students are encourage to ask questions about the material covered in the class. This will be used as feedback and can be on a topic that was not clearly comprehended.
D. Zero points if engineering and graph papers are not used for your homework and exams.

Students will be consulted by the instructor and all must agree to any modifications or deviations from the syllabus throughout the course of the semester.

Integrity and honesty are of paramount importance and as such the NJIT University Code on Academic Integrity will be upheld. Any violations will be brought to the immediate attention of the Dean of Students. See http://www.njit.edu/academics/integrity.php

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Also include any list of symbols, figures or tables that you think are appropriate but do not obscure the important results with excessive computer output or calculation worksheets.

All calculations are to be included, all work shown and presented on engineering graph paper, hand written calculations must be neat.