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CET 341-002: Soils and Earthworks

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CET 341 – SOILS AND EARTHWORKS

COURSE NUMBER	CET 341
COURSE DESCRIPTION	SOILS AND EARTHWORKS
COURSE STRUCTURE	(3-0-3) (lecture hr/wk - lab hr/wk – course credits)
COURSE DESCRIPTION	A study of the significant soil types and tests. Problems are investigated relating to soil mechanics, soil supported foundations for engineering structures. Appropriate field trips are made.
PREREQUISITE(S)	Prerequisite: Strength of materials, CET 317 (construction computing).
COREQUISITE(S)	None
REQUIRED MATERIALS	Essentials of Soil Mechanics and Foundations David McCarthy, Prentice Hall, Inc. (Latest Edition)
MANDATORY FIELD TRIP	TBA
COURSE OBJECTIVES	By the end of the course students should be able to: 1. Identify fundamental concepts of soil mechanics 2. Describe the basic components of subgrade soil formations and foundations
CLASS TOPICS	Intro to Soils and Geology, Soil Types and Classifications, Permeability and Seepage, Stresses and Settlement, Foundation Systems
OUTCOMES	The Course Learning Outcomes support the achievement of the following CET Program Outcomes and TAC of ABET Criterion 9 requirements Outcome 1 An appropriate mastery of the knowledge , techniques skills and modern tools of the construction industry Outcome 2 An ability to apply current construction knowledge, adapt emerging applications of mathematics, science, engineering and technology Outcome 6 An ability to identify, analyze, and solve technical problems Outcome 7 An ability to communicate effectively

GRADING POLICY

Homework, Sample prob., e-quizzes or quizzes	30 %
Tests	35 %
Final Exam	35 %

Note: Grading Policy may be modified by Instructor for each Section in the Course)

Note: Cannot pass course if you having failing grades on tests and final exam

Makeup examinations will not be given. Therefore, if any student has a valid reason for missing an exam, they should discuss with the instructor an alternate method of weighing the final grade.

All exams are cumulative unless otherwise noted by the instructor. All exams are closed book and closed notes. A formula sheet written by the student will be accepted in accordance with the instructor's limitations.

The final letter grade will be determined by the total number of points received during the course. Any variations to any of the above requirements are at sole discretion of the instructor.

HOMEWORKS and Sample Problems:

All homeworks are due on moodle, in the format prescribed online, one week after it has been assigned. No homework will be accepted one week after its due date, after it has been reviewed in class, or after the solutions have been posted . All homeworks will be credited on the basis of the student attempt to understand the concept presented in the text or class. The homework must show how you derived the answers.

Sample Problems are due on the date of the exam and will be turned in through Moodle. ABET course guidelines are in effect. Copy all of your work before submitting!!

ATTENDANCE:

The student is responsible for those materials covered in class and any materials assigned online as readings as noted by instructor. A student who misses a class is still responsible for submitting materials online and on time or they can give adequate notice of any late submittals to the professor before the due date.

ACADEMIC INTEGRITY

NJIT has a zero-tolerance policy regarding cheating of any kind and student behavior that is disruptive to a learning environment. Any incidents will be immediately reported to the Dean of Students. In the cases the Honor Code violations are detected, the punishments range from a minimum of failure in the course plus disciplinary probation up to expulsion from NJIT with notations on students' permanent record. Avoid situations where honorable behavior could be misinterpreted. For more information on the honor code, go to <http://www.njit.edu/academics/honorcode.php>

STUDENT BEHAVIOR

- No eating or drinking is allowed at the lectures, recitations, workshops, and laboratories.
- Cellular phones must be turned off during the class hours – if you are expecting an emergency call, leave it on vibrate.
- No headphones can be worn in class.
- Unless the professor allows the use during lecture, laptops should be closed during lecture.
- During laboratory, if you are finished earlier, you must show the professor your work before you leave class
- Class time should be participative. You should try to be part of a discussion

MODIFICATION TO COURSE

The Course Outline may be modified at the discretion of the instructor or in the event of extenuating circumstances. Students will be notified in class of any changes to the Course outline.

**PREPARED BY
PROGRAM COORDINATOR**

Dr. D. Washington
Prof. John Wiggins

COURSE OUTLINE

Week	Date	Textbook	Assignment	Topics
1.	21-Jan	Read Chapter 1	Homework assignment in Canvas for week 1	Course Outline and Overview
	23-Jan		Homework assignment in Canvas for week 1	Introduction and Overview of Course
2.	28-Jan	Read Chapter 3		Soil Structures
	30-Jan			
3.	4-Feb	Read Chapter 2	Homework assignment in Canvas for week 3	Soils Phase Diagram
	6-Feb			
4.	11-Feb			Soil Types and Classifications
	13-Feb			
5.	18-Feb			Test #1
	20-Feb			
6.	25-Feb	Read Chapt. 4	Homework assignment in Canvas for week 6	Soil Testing
	27-Feb			
7.	3-Mar			
	5-Mar			
8.	10-Mar	Read Chapt.5	Optional Homework assignment in Canvas for week 8	Site Investigations
	12-Mar			Test #2
9.	17-Mar	SPRING BREAK MARCH 15TH TO 21st , 2019		
	19-Mar			
10.	24-Mar			Stresses
	26-Mar			
11.	31-Mar	Read Chapt.10	Optional Homework assignment in Canvas for week 10	
	2-Apr			Settlement
12.	7-Apr	LAST DAY TO WITHDRAW, April 6th		
	9-Apr			Test #3
13.	14-Apr			
	16-Apr	Read Chapt.6&7		<i>Permeability and Seepage</i>
14.	21-Apr			Case Studies
	23-Apr			
15.	28-Apr			Industrial Speaker
	30-Apr			
16.	5-May	Last Day of Classes		
	7-May		Reading Day	

CLASS HOURS

Tuesday and Thursday 10:00 AM – 11:20AM KUPF 204

OFFICE HOURS (GITC 2504)

Tuesday and Friday 9:00 AM – 10:00AM

Or by appointment: (973) 642-7915 or washd@njit.edu

Canvas Site: Canvas.njit.edu