ISHIK UNIVERSITY
FACULTY OF ENGINEERING
Department of CIVIL ENGINEERING,
2018-2019 Fall
Course Information for CE 317 SOIL MECHANICS I

Course Name:	SOIL MECHANICS I

Code	Course type	Regular Semester	Theoretical	Practical	Credits	ECTS
CE 317	2	5	2	2	3	

Name of Lecturer(s)-Academic Title:	Barham Haydar - MSc omar taha - MSc
Teaching Assistant:	-
Course Language:	English
Course Type:	Main
Office Hours	9:00 to 12:00 A.M Thursday
Contact Email:	barham.haydar@ishik.edu.iq omar.taha@koyauniversity.org Tel:07705042603 07705165300
Teacher's academic profile:	MSc holder in construction materials M.Sc. in Highways and Airports Engineering / University of Technology/Building & Construction Engineering/(Iraq / Baghdad) in 2003. B.Sc. in Building and Construction Department Engineering / University of Technology/ Building & Construction Engineering/(Iraq / Baghdad) in 2000.
Course Objectives:	The student at end of the course will be able to 1-classify soil according to USSC 2-calculate stress in soil with depth due to self weight of soil 3- determine permeability of soil 4- define compaction of soil and how compaction is performed in field 5- perform most laboratory tests of soil
Course Description (Course overview):	: Analysis and classification of soils, Clay minerals, Stress and strain behavior and relationship, stresses within a soil mass, Effective stress concept, Permeability and seepage, Compressibility and consolidation of soil, Shear strength of soil, Lateral earth pressure, Slope stability, Bearing capacity and settlement of foundations, The improvement of soil.

COURSE CONTENT

Week	Hour	Date	Topic
1	2	2-4/10/2018	Introduction- Definition of soil and origin of soil
2	2	7-11/10/2018	Physical and chemical weathering of soil -clay minerals - coarse and fine soil
3	2	14-18/10/2018	Classification of soil according to Unified system -Examples - Quiz 1
4	2	21-25/10/2018	Volume and weight relationship of soil -Examples
5	2	28/10-1/11/2018	continue examples -Quiz 2
6	2	4-8/11/2018	Stress in soil due to selfweight of soil -examples
7	2	11-15/11/2018	capillary in soil -examples - Quiz 3
8	2	18-22/11/2018	Midterm Exam
9	2	25-29/11/2018	Permeability of soil- Darcy law
10	2	2-6/12/2018	Seepage in soil - hydraulic heads -Examples
11	2	9-13/12/2018	Constant and variable head permeability
12	2	16-20/12/2018	Calculation of total ,water and elevation heads-Examples -Quiz 4

13	2	23-24/12/2018	Compaction of soil - compaction curve -why compaction of soil
14	2	2-3/1/2019	Lab. and insitu compaction -degree of compaction
15	2	7-10/1/2019	standard and modified compaction -examples -Quiz 5
16	2	13-17/1/2019	Final Exam
17	2	20-24/1/2019	Final Exam

COURSE/STUDENT LEARNING OUTCOMES

1	1-soil mechanics
2	2- introduction into foundation Engineering
3	3- Basic of Mathematics

COURSE'S CONTRIBUTION TO PROGRAM OUTCOMES

(Blank : no contribution, I: Introduction, P: Profecient, A: Advanced)

	Program Learning Outcomes	**Cont.**
1	An ability to apply knowledge of mathematics, science, and engineering	P
2	An ability to design and conduct experiments, as well as to analyze and interpret data	P
3	An ability to design a system, component, or process to meet desired needs	P
4	An ability to identify, formulate and solve engineering problems	P
5	An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice	I
6	Skills in project management and recognition of international standards and methodologies	I
7	An ability to function on multi-displinary teams	I
8	An understanding of professional and ethical responsibility	I
9	An ability to communicate effectively	P
10	The broad education necessary to understand the impact of engineering solutions in a global and social context	P
11	A recognition of the need for and ability to engage in, lifelong learning	P
12	A knowledge of contemporary issues	P

Prerequisites (Course Reading List and References):	1-Soil mechanics 2- Fluid mechanics 3-Basics of Mathematics
Student's obligation (Special Requirements):	1- text book 2- Calculator

Weekly Laboratory/Practice Plan:

Week	**Hour**	**Date**	**Topics**
1	2	2-4/10/2018	How to write lab. report
2	2	7-11/10/2018	Moisture content test
3	2	14-18/10/2018	Specific gravity test of soil
4	2	21-25/10/2018	Liquid and plastic limit test of fine soil
5	2	28/10-1/11/2018	Seive analysis of coarse soil
6	2	4-8/11/2018	Quiz 1
7	2	11-15/11/2018	Permeability by constant head for coarse soil
8	2	18-22/11/2018	mid exam
9	2	25-29/11/2018	Permeability by falling head for fine soil
10	2	2-6/12/2018	Examples
11	2	9-13/12/2018	seminars

	12	2	16-20/12/2018	standard compaction test of soil
	13	2	23-24/12/2018	modified compaction test of soil
	14	2	2-3/1/2019	Discussion and solving examples
	15	2	7-10/1/2019	Quiz 2
	16	2	13-17/1/2019	Final Exam
	17	2	20-24/1/2019	Final exam

Course Book/Textbook:	1- 1- Soil Mechanics and Foundations by Muni Budhu - 3 rd Edition 2-2- Craig's Soil Mechanics by R.F. Craig – 7th Edition 3-5- Problem Solving in Soil Mechanics by A. Asyen
Other Course Materials/References:	1- Mathematics 2- Fluid mechanics
Teaching Methods (Forms of Teaching):	Lectures, Excersises, Presentation, Seminar

COURSE EVALUATION CRITERIA

Method	Quantity	Percentage (%)
Attendance	1	4
Quiz	4	3
Midterm Exam(s)	1	30
Laboratory	1	10
Lab/Practical Exam(s)	1	4
Final Exam	1	40
Total		**100**

Examinations: Essay Questions, Multiple Choices, Short Answers, Matching

Extra Notes:

ECTS (ALLOCATED BASED ON STUDENT) WORKLOAD

Activities	Quantity	Duration (Hour)	Total Work Load
Course Duration (Including the exam week: 16x Total course hours)	1	64	64
Hours for off-the-classroom study (Pre-study, practice)	1	80	80
Assignments Mid-terms	1	2	2
Final examination	1	2	2
Other			0
Total Workload			**148**
ECTS Credit (Total workload/25)			**5.92**

Peer review

Signature:	Signature:	Signature:
Name:	Name:	Name:
Lecturer	Head of Department	Dean