Republic of Iraq

The Ministry Of Higher Education

& Scientific Research

بسم الله الرحمن الرحيم

University: Diyala
College: Engineering
Department: Civil
Stage: fourth year
Lecturer name: Dr. Safa Hussain
Qualification: Ph. D in civil Eng.
Place of work: Divala Universitv

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Course Instructor	Dr. Safa Hussain A. Awn				
E-mail	Safa_alshamary@yahoo.com				
Title	Foundation Engineering				
Course Coordinator	Yasir Nashat				
Course Objective	The objected of this course is to learn the students principles of foundation engineering				
Course Description	The course contains an important information's for the design of foundations of buildings , slopes , retaining walls, and piles. It includes the computation of foundation settlement and bearing capacity. In addition to the site investigation and field tests				
Textbook	• Foundation Analysis and Design, Bowles J, E, 5th Ed, New York: Mc Graw Hill, 1996. • هندسة الاسس, Al-Sahakarji and Al-Muhammedy, 1984. • Foundation Engineering, Peck, R. B and Hansen, W. E and Thornbum, T. H, 2nd ed, New York , 1974. • Foundation Engineering Hand Book, Winterkon, W. F and Hsai Yeng Fang, 1975. • Requirements for Reinforce Concrete, American Concrete Institute (ACI code), 1977				
Course Assessments	Term Tests	Laboratory	Quizzes	Project	Final Exam
	30%	-	10%	-	60%
General Notes	This course includes also :seminars for the students to study various subjects in Foundation Engineering. Like problematic soils and remedies and other subjects.				

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Course Weekly Outline

Week	Date	Topes Covered	Lab. Experiment Assignments	Notes
1	14/9/2014	INTRODUCTION, FOUNDATION DEFENITION AND PURPOSE	-	-
2	21/9/2014	FOUNDATION CLASSIFICATION AND REQUIREMENTS	-	-
3	28/9/2014	SITE INVESTIGATION, PURPOSE, SUBSURFACE EXPLORATION PROGRAM, SOIL BORING METHODS.	-	-
4	5/10/2014	SOIL SAMPLING DISTURB AND UNDISTURB SAMPLES, EXPLORATION METHODS	-	-
5	12/10/2014	FIELD TESTS FIELD DENSITY TEST, STANDARED PENETRATION TEST,	-	-
6	19/10/2014	VANE SHEAR TEST AND PLATE LOAD TEST, FIELD PERMEABILITY TEST	-	-
7	26/10/2014	SOIL INVESTIGATION REPORT.	-	-
8	2/11/2014	INTRODUCTION TO BEARING CAPASITY, TYPES OF SHEAR FAILURE FOR FOOTING	-	-
9	9/11/2014	BEARING CAPASITY FOOTING ON C-ϕ SOIL,DERIVATION OF TERZAGHI BEARING CAPASITY EQUATION	-	-

10	16/11/2014	TERZAGHI, MEYERHOF	-	-
11	23/11/2014	, HANSEN, VESICS BEARING CAPASITY CALCULATION	-	-
12	30/11/2014	BEARING CAPASITY: FOOTING ON CLAYEY SOIL, FOOTING ON SANDY SOIL,	-	-
13	7/12/2014	FOOTING ON NON HOMOGENIOUS AND LAYERED SOIL , EFFECT OF WATER TABLE ON BEARING CAPASITY.	-	-
14	14/12/2014	FOUNDATION SETTLMENT,STRESSES IN SOIL, IMMEDIATE SETTLMENT CALCULATION FOR HOMOGENIOUS AND LAYERED SOIL	-	-
15	21/12/2014	CONSOLIDATION SETTLMENT CALCULATION.	-	-
16	28/12/2014	SECONDARY SETTLMENT CALCULATION	-	-
Half – year break				
17	15/2/2015	STRUCTURAL DESIGN OF FOOTING, STRUCTURAL DESIGN OF SPREAD FOOTING	-	-
18	22/2/2015	STRUCTURAL DESIGN OF COMBINED FOOTING	-	-
19	1/3/2015	STRUCTURAL DESIGN OF MAT FOOTING	-	-
20	8/3/2015	LATERAL EARTH PRESSURE AND DERIVATION OF ACTIVE AND PASSIVE EARTH PRESSURE (RANKINE THEORY)	-	-
21	15/3/2015	PROBLEMS FOR LATERAL EARTH PRESSURE CASES.	-	-
22	22/3/2015	SHEET PILES PROBLEMS	-	-
23	29/3/2015	RETAINING WALL TYPES AND DESIGN	-	-
24	5/4/2015	GRAPHICAL METHOD FOR SOLVING LATERAL EARTH RETAINING WALL STRUCTURES PROBLEMS	-	-
25	12/4/2015	SLOPE STABILITY PROBLEMS, FRICTION CIRCLE METHOD, ϕ=0	-	-

		METHOD.		
26	19/4/2015	SLOPE STABILITY SOLUTION BY METHOD OF SLICES (GRAPHICAL METHOD)	-	-
27	26/4/2015	PILES IN FOUNDATION ENGINEERING, TYPES, PURPOSE.	-	-
28	3/5/2015	ULTIMATE BEARING CAPASITY OF SINGLE PILE	-	-
29	10/5/2015	ULTIMATE BEARING CAPASITY FOR PILE GROP	-	-
30	17/5/2015	COMPUTER ROGRAM APPLICATIONS ON FOUNDATIONS DESIGN	-	-
31	24/5/2015	COMPUTER ROGRAM APPLICATIONS ON FOUNDATIONS DESIGN	-	-

INSTRUCTOR Signature: **Dean Signature:**