COURSE SPECIFICATION

MiniaUniversity
Faculty of Engineering

1- Administrative Information

Course Title : SoilMechanics and Foundations (1)
Code :CVE 214
Department(s) offering the course: Civil Eng. Dept.
Program (s) on which the course is given:B.Sc.
Department offering the program (s) : Civil Eng. Dept.
Academic year/level :2nd year Civil
Semester :1st semester
Date of specification/revision :2011
Date of approval by Departmental/Faculty /2011
Taught hours (whichever is appropriate):
Lecture: 4hrs/week Tutorial: 2hr/week Practical:2hr/week others**:**

Total: 8hrs/week

2-Overall Aims of the Course

This course is designed toIntroduce basic concepts of soil mechanics to students and its implications in civil engineering practice.
Providing background knowledge about soil engineering properties/ behavior pertaining to loads/ stresses, strength, deformations, and seepage.
Edifying students regarding soil long term and short term response upon loading.
Enriching students' information about soil imposed lateral pressures on retaining structures.

3-Intended Learning Outcomes of the course (ILOs)

a- Knowledge and understanding:

a_1-**Define** basic soil mechanics terms.
a2- **list-**bases and procedures of soil classification
a3-**Illustrate** soil behavior under shearing
a_4- **Learn**long term compressibility of fine soils
a5- **Explain** theories of earth pressures

- Intellectual skills
b_1- **Analyze** soil phase diagram
b_2- **Specify** soil type based on index properties
b3 **Asses** soil coefficient of permeability
b4- **Distinguish** between shear strength characteristics of cohesive and non-cohesive soils
b5-**Develop** time settlement curves
b6-**Demonstrate** earth pressures distributions on walls and retaining structures

c- Professional and practical skills
c_1-**Use** soil mechanics laboratory tools and equipment

c2-**Apply** basic soil compaction concepts in embankment projects
c3- **Adopt**Moher circle diagrams to find out soil shear strength parameters
c4- **Evaluate** average vertical and horizontal coefficients of permeability of layered soil formations
c5-**Prepare** soil gradation curves

d- General and transferable skills
d_1- **communicate** effectively using written, oral and graphical presentational skills.
d_2-**use** information technology, IT, effectively
(word processor, spreadsheets, databases, presentations, email, net browsing)
d_3- **think** quietly and positively, and work independently
d4-**Good** communication skills through oral presentations and technical report writing
d5-**work** in a team environment
d6-**manage** workloads and time effectively.

4- Syllabus

CHAPTERS	CONTENTS
Chapter (1)	Soil Engineering Properties and basic definitions
Chapter (2)	Classification of soils
Chapter (3)	Permeability of Soil
Chapter (4)	Soil Compaction
Chapter (5)	Soil Shear Strength
Chapter (6)	Consolidation of Soils
Chapter (7)	Lateral Earth Pressures

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5-Teaching and Learning Methods

5.1-.Lectures.
5.2- Tutorial activities.
5.3- Discussion sessions .
5.4- Reports
5.5 Office meetings.

6-StudentsAssessment

Tutorial assignments	2^{nd}, 3^{rd}, 4^{th}, 6^{th}, 8^{th}, 10^{th}, & 12^{th}	weeks (1^{st} term)
Written mid-term exam	6^{th}	week (1^{st} term)
Written final exam	14^{th}	week (End of 1^{st} term)

7-Weighing of assessments:

Tutorial assignments	15%
Written mid-term exam	15%
Written final exam	70%
Total	100 %

8-List of References

8.1-Course notes:

Course Notes: Lecture notes prepared by the course instructor

8.2-Essential books (textbooks):

AmrRadwan", ISBN 977-5423-91-0,"Fundamentals of Soil Mechanics 8th edition".

8.3-Recommended books:

8-3-1Braja M. Das, ISBN 0-534-55144-0, 2006 " Principles of Geotechnical Engineering", fifth edition,.

8-3-2 V. N. S. Murthy, 1st edition, 2002, ISBN 978-0824708733-" Geotechnical Engineering: principles and practices of soil mechanics and foundation engineering".

9-Other Resources/ Facilities required for teaching and learning to achieve the above ILOs .

9.1- Soil Mechanics Laboratory
9.2- overhead projectors
9.3. Data shows
9.4- Class room.
9.3- Many text books available in the departmental library.

10- We certify that all of the information required to deliver this course is contained in the above specification and will be implemented.

CourseCoordinator:

Name: Prof. Dr. Emad Osman

Signature:…….. Date: Jan., 2013

Head of Department of: Civil Engineering Department

Name: Prof. Dr. Prof. Dr. Laila Abdel Hafez

Signature:…….. Date:……

Course Curriculum Map

Course title: SoilMechanics and Foundations (1) **Code:** CVE 214

Course coordinators: Prof. Dr.Emad Osman.

- **Course Aim**: Introducing basic concepts of soil mechanics to students and its implications in civil engineering practice.
- Providing background knowledge about soil engineering properties/ behavior pertaining to loads/ stresses, strength, deformations, and seepage.
- Edifying students regarding soil long term and short term response upon loading.
- **Enriching students' information about soil imposed lateral pressures on retaining structures.**

S	Intended Learning Outcomes (ILOs)				Topics	Week #	Teaching Methods	Assessment Methods	Evidences
	Knowledge and understanding	Intellectual skills	Professional and practical skills	General and transferable skills					
1	a1	b1	c1	d1-d6	Soil Engineering Properties and basic definitions	1 - 3	Lectures. Office Meeting	4.1Tutorial assignments 4.2 Written mid-term exam(1) 4.3 Oral exam. 4.4 Written mid-term exam(2) 4.5 Written final exam	Course File Examination paper Model Answer. Student's projects. Students reports.
2	a2	b4		d1-d6	Classification of soils	3 - 4	Lectures. Office meetings		
3	a1	b3	c4	d1-d6	Permeability of Soil	5- 6	Lectures. Tutorial activities		
4	a1		c1 c2	d1-d6	Soil Compaction	7 - 8	Lectures. Tutorial activities Small projects		
5	a3		c1 c3	d1-d6	Soil Shear Strength	9 -11	Lectures. Tutorial activities Small projects		

6	a4	b5	c1 c5	d1-d6	Consolidation of Soils	12 -13	Lectures. Tutorial activities	.	
7	a5	b6		d1-d6	Lateral Earth Pressures	14 -15	Lectures. Report		

Department Head:prof. Dr. Laila Abdel Hafez