FUTURE UNIVERSITY IN EGYPT جامعة المستقبل

Faculty of Engineering & Technology

Soil Mechanics

Information :

Course Code :	SCM 441	**Level :**	Undergraduate	**Course Hours :**	4.00- Hours

Department : Department of Structural Engineering & Construction Management

Instructor Information :

Title	Name	Office hours
Associate Professor	Ahmed Mohamed Abd Elkhaleq Ebid	18
Assistant Lecturer	MUHAMMAD DIAB SAAD ELDIN ABDLAAL	16
Assistant Lecturer	Ahmed Mohamed Abdel Moniem Mohamed Soliman	

Area Of Study :

ÅGet starting with soil formation and classification
ÅUnderstand the basics of soil testing and stress distribution of different loading and foundation shapes.
ÅUnderstand of the seepage flow of water tough soil and its applications on various water structures as Weirs, regulators, cofferdamsé .etc
ÅExplore the consolidation of soil and its application to calculate the compressibility of soil and the time equivalent.
ÅExamine the methods of soil improvement including compaction and soil stabilization techniques and method of measuring compaction efficiency
ÅTake a practical look at the shear strength of soil and the applications of soil testing on the assessment of the shear strength under drained and un-drained conditions

Description :

Main properties of soil, Soil classification, Soil compaction, Permeability, stresses distribution in soil, Compressibility of soil, Theory of consolidation, shear strength of soil, Lateral earth pressure, Bearing capacity of soil.

Course outcomes :

a.Knowledge and Understanding: :	
1 -	Differentiate the different soil improvement techniques.
2 -	List the effects that flow of water has on soil
3 -	Outlines the principles of slope stability analysis
b.Intellectual Skills: :	
1 -	Calculate the results of field and lab compaction tests
2 -	Computes discharge and uplift in seepage problems
3 -	Analyzes stability of soil slopes using several methods
4 -	Assess the obtained results accuracy
c.Professional and Practical Skills: :	
1 -	Implements quality control procedures on field compaction

2 -	Proceeds sand cone and Proctor lab tests
3 -	Draw flow nets in seepage problems
d.General and Transferable Skills: :	
1 -	Manage time and meet deadlines

Course Topic And Contents :

Topic	No. of hours	Lecture	Tutorial / Practical
Permeability and seepage flow	15	9	6
Soil compaction and soil improvement	10	6	4
Stress Distribution	10	6	4
Elastic and Immediate Settlement	10	6	4
Soil consolidation and compressibility	10	6	4
Shear strength of soil	10	6	4
Slope stability	10	6	4

Teaching And Learning Methodologies :

Class Lectures

Tutorials

Course Assessment :

Methods of assessment	Relative weight %	Week No	Assess What
Final exam	40.00		
First Mid Term Exam	25.00		
Performance	10.00		
Second Mid Term Exam	25.00		

Course Notes :

-Lecture Notes on Moodle

Recommended books :

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Periodicals :

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Web Sites :

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