

Faculty of Engineering & Technology

Engineering Geology

Information :

Course Code : SCM 313

Level : Undergraduate

Course Hours : 2.00- Hours

Department : Department of Structural Engineering & Construction Management

Instructor Information :

Title	Name	Office hours
Lecturer	Ahmed Mohamed Abdel Moniem Mohamed Soliman	22
Assistant Lecturer	Mahmoud Mohamed Khalaf Ahmed	7

Area Of Study :

- Understand fundamentals of earth formation
- Comprehend the fundamental principles of rock mechanics for the solution of practical Engineering problems and ability to recognize types of rock, joints and discontinuities.
- Identify the fundamental geological features and various problems associated with the rock formations
- Explore the fundamental definitions of soil properties
- Develop skills for analyzing experimental data and working in teams
- Share ideas and work in a team.

Description :

Engineering classification and properties of minerals and rocks, Nature and properties of the earth's crust, Faults, folds, joints and joint systems, Earthquakes : centre, waves, the centre of the earth, Geologic map of Egypt, Building materials, Concrete materials (aggregates and cement), Geophysics applied in civil engineering, Ground water : distribution G.W, motion of G.W., G.W. Level ,G.W. Pollution ,Problems related to extraction of G.W., Weathering problems ,Field visits to geologic sites.

Course outcomes :

a.Knowledge and Understanding: :

1 -	Explain the fundamentals of rock cycle
2 -	Define the geological properties of different rock types (Petrography).
3 -	Classify the various engineering properties of rocks
4 -	Identify the main laboratory testing on intact rocks and interpret of the test results.
5 -	Representing stress state of rock in Mohr circle
6 -	Define the main and basic definitions of soil properties

b.Intellectual Skills: :

1 -	Ability to define and solve problems
2 -	Ability to analyze experimental data

c.Professional and Practical Skills: :

1 -	Using of laboratory devices
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2 - Writing technical reports

d.General and Transferable Skills: :

1 - Ability to work in a team

2 - Ability to share ideas and communicate with others

3 - Ability to deal with others according to the rules of the professional Ethics

Course Topic And Contents :

Topic	No. of hours	Lecture	Tutorial / Practical
Formation of Earth	2	2	1
Rock Cycle and types of Rocks	8	8	8
Geological features	2	4	4
Engineering properties of Rocks, laboratory testing of rocks, normal, shear stresses and Mohr circle.	8	8	8
Soil Formation and different soil deposits	4	4	4
Basic properties of soil and basic definitions	4	4	4

Teaching And Learning Methodologies :

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 :

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Recommended books :

- " Alam Singh "Basic soil mechanics and foundations", 2004"

Periodicals :

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Web Sites :

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