

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

##### b.Intellectual Skills: :

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

##### c.Professional and Practical Skills: :

1 -	Writing technical reports
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2 - Using of laboratory devices

**d.General and Transferable Skills: :**

1 - d3 Ability to deal with others according to the rules of the professional Ethics

2 - Ability to share ideas and communicate with others

3 - Ability to work in a team

**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	4
Geological features	2	2	1
Engineering properties of Rocks, laboratory testing of rocks, normal, shear stresses and Mohr circle.	8	8	4
Soil Formation and different soil deposits	4	4	2
Basic properties of soil and basic definitions	4	4	2

**Teaching And Learning Methodologies :**

Lectures

Tutorials

Internet search

Local visits

**Course Assessment :**

Methods of assessment	Relative weight %	Week No	Assess What
Assignments	15.00	10	
Final-term Examination	40.00	15	
Mid-Term Examination	40.00	11	
Quiz	5.00	10	
Total	100.00		

**Course Notes :**

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**Recommended books :**

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**Periodicals :**

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**Web Sites :**

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