

## Faculty of Engineering & Technology

### Foundations

#### Information :

**Course Code :** SCM 541

**Level :** Undergraduate

**Course Hours :** 3.00- Hours

**Department :** Department of Structural Engineering & Construction Management

#### Instructor Information :

Title	Name	Office hours
Associate Professor	Ahmed Mohamed Abd Elkhaleq Ebid	12
Associate Professor	Ahmed Mohamed Abd Elkhaleq Ebid	12
Associate Professor	Ahmed Mohamed Abd Elkhaleq Ebid	12
Assistant Lecturer	Muhammad Diab Saadeldin Abdl aal	22
Assistant Lecturer	Muhammad Diab Saadeldin Abdl aal	22
Assistant Lecturer	Ahmed Mohamed Abdel Moniem Mohamed Soliman	4
Assistant Lecturer	Muhammad Diab Saadeldin Abdl aal	22
Assistant Lecturer	Dina Hesham Mohamed Helmy	

#### Area Of Study :

Upon successful completion of this course, the student should be able to:

- Understand the basic concepts and main principles
- Calculate the values of the essential terms
- Design and draw neat details
- Apply Codes provisions

Regarding earth pressure, retaining walls, bearing capacity, shallow foundations, deep foundations, pile capacity and pile caps

#### Description :

Design of shallow foundations, Pile foundations, Retaining walls, Sheet pile walls, Dewatering, Stability of slopes, Site investigation and choice of type of foundation.

#### Course outcomes :

##### a.Knowledge and Understanding: :

1 -	Define the main terms of earth pressure & retaining walls
2 -	List the main items of shallow foundations
3 -	List the main items of deep foundations
4 -	Define the main terms of pile capacity

##### b.Intellectual Skills: :

1 -	Calculate the values of earth pressure & retaining walls
2 -	Calculate the values of bearing capacity

3 -	Design the elements of shallow foundations
4 -	Assess issues of deep foundations
5 -	Calculate the values of pile capacity
6 -	Design the elements of pile caps

**c. Professional and Practical Skills: :**

1 -	Apply Code provisions regarding earth pressure & retaining walls
2 -	Apply Code provisions regarding bearing capacity
3 -	Draw neat details of shallow foundations
4 -	Prepare technical reports for deep foundations
5 -	Apply Code provisions regarding pile capacity
6 -	Draw neat details of pile caps

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

1 -	Work under stress
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**Course Topic And Contents :**

Topic	No. of hours	Lecture	Tutorial / Practical
Earth pressure & retaining walls	10	6	4
Bearing capacity	10	6	4
Shallow foundations	20	12	8
Deep foundations	5	3	2
Pile capacity	10	6	4
Pile caps	15	9	6
Revision	5	3	2

**Teaching And Learning Methodologies :**

Interactive Lec.
Discussion
Problem Solving
Project
Report / Present

**Course Assessment :**

Methods of assessment	Relative weight %	Week No	Assess What
Final exam	40.00		
First Mid Term Exam	15.00		
Project	10.00		
Quizzes / Assig.	10.00		
Report / Present.	10.00		

**Course Notes :**

Lecture Notes on Moodle

**Recommended books :**

"Soil Mechanics and Foundation Engineering", K.R. Arora , 2004