

Faculty of Engineering & Technology

Structural Analysis 2

Information :

Course Code : SCM 212

Level : Undergraduate

Course Hours : 3.00- Hours

Department : Department of Structural Engineering & Construction Management

Instructor Information :

Title	Name	Office hours
Professor	Bahaa sharaf ismail tork	3
Associate Professor	MOHAMED GALAL KHALIL IBRAHIM ELSHERBINI	9
Associate Professor	MOHAMED GALAL KHALIL IBRAHIM ELSHERBINI	9
Assistant Lecturer	Nada Mohamed Abd El Hamid Ali Mohamed	4
Assistant Lecturer	Muhammad Diab Saadeldin Abdl aal	
Teaching Assistant	Mohamed Ahmed Reda Abas Ahmed	13
Teaching Assistant	Mohamed Ahmed Reda Abas Ahmed	13

Area Of Study :

1. Calculate the support reactions of arch and cable structures
 2. Determine the geometry of parabolic and segmental arches
 3. Calculate the internal forces at selected points of the arch and their maximum values.
- SCM 212: Structural Analysis (2) 2
4. Determine the maximum tension and the geometry of the cable supporting concentrated or distributed loads.
 5. Construct the influence lines of support reactions and internal forces in beams, cantilever beams, trusses and frames.
 6. Calculate the maximum, minimum and extreme values of the internal forces due to moving loads using the influence lines.

Description :

Analysis of beams subjected to moving loads, Introduction to space structures, Influence lines for statically determinate structures.

Course outcomes :

a.Knowledge and Understanding: :

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| 1 - | a1- Explain the principals of arch structures |
| 2 - | a2- Define the main terms of cables structures |

b.Intellectual Skills: :

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| 1 - | b1- Calculate the values of arch structures |
| 2 - | b2- Analyze the system of cables structures |
| 3 - | b5- Calculate the values of Influence lines for frames |

c. Professional and Practical Skills: :

1 -	c1- Prepare technical reports for cables structures
2 -	c2- Draw neat details of Influence lines for beams
3 -	c3- Draw neat details of Influence lines for trusses
4 -	c4- Draw neat details of Influence lines for frames

d. General and Transferable Skills: :

1 -	d1- Search for information and self-learning discipline
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Course Topic And Contents :

Topic	No. of hours	Lecture	Tutorial / Practical
arch structures	12	9	3
cables structures	12	9	3
Influence lines for beams.	12	9	3
Influence lines for trusses.	12	9	3
Influence lines for frames and arches.	8	6	2
Revision	4	3	1

Teaching And Learning Methodologies :

Interactive Lec.
Discussion
Problem solving
Lab Exper.
Project
Report / Present

Course Assessment :

Methods of assessment	Relative weight %	Week No	Assess What
Final exam	40.00		
First Mid Term Exam	15.00		
Quizes and assignments	15.00		
report/ present	15.00		
Second Mid Term Exam	15.00		

Course Notes :

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Recommended books :

-Textbook: - "Structural Analysis", R.C. Hibbeler, Prentice Hall, Singapore,2005

Periodicals :

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Web Sites :

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