

Faculty of Engineering & Technology

Structural Analysis 1

Information :

Course Code : SCM 211

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	
Lecturer	Dina Muhammad Fathy Ors	21
Teaching Assistant	Mohamed Ahmed Reda Abas Ahmed	6
Teaching Assistant	Mohamed Fathy Salem Mohamed	
Teaching Assistant	Mohamed Ahmed Reda Abas Ahmed	6

Area Of Study :

- Determine the reactions at the supports.
- Determine of the Internal Forces Diagrams for the statically determinate structures (Beams-Frames-Trusses-Arches) under applied static loads.
- Determine the stability and determinacy of structures.

Description :

Types of structures, Loads, Supports, Determination of reactions, Internal forces, Analysis of beams, Frames and plane trusses.

Course outcomes :

a. Knowledge and Understanding: :

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| 1 - | a1- List the main items of Types of structures, Loads & Supports |
| 2 - | a2- Define the main terms of stability and determinacy |
| 3 - | a3- Define the main terms of free body diagram & Equilibrium |

b. Intellectual Skills: :

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|-----|---|
| 1 - | b1- Calculate the values of Types of structures, Loads & Supports |
| 2 - | b2- Assess issues of stability and determinacy |
| 3 - | b3- Analyze the system of free body diagram & Equilibrium |
| 4 - | b4- Calculate the values of internal forces diagrams |
| 5 - | b5- Solve problems regarding Pin-jointed structures |

c. Professional and Practical Skills: :

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| 1 - | c1- Prepare technical reports for stability and determinacy |
| 2 - | c2- Draw neat details of internal forces diagrams |

d.General and Transferable Skills: :

1 - d1- Search for information and self-learning discipline

Course Topic And Contents :

Topic	No. of hours	Lecture	Tutorial / Practical
Types of structures, Loads & Supports	4	3	1
stability and determinacy conditions of equilibrium, determinacy and stability	8	6	2
Free body diagrams and equilibrium reactions for various types of structures, definition of internal forces in plane structures	12	9	3
internal force diagrams frames and production of internal force diagrams.	20	15	5
Pin-jointed structures	12	9	3
Revision	4	3	1

Teaching And Learning Methodologies :

Interactive Lec.

Discussion

Problem solving

Experimental learning

Project

Report / Present

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 :

-the MOODLE

Recommended books :

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Periodicals :

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Web Sites :

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