

Faculty of Engineering & Technology

Theory of Structures

Information :

Course Code : SCM 214

Level : Undergraduate

Course Hours : 3.00- Hours

Department : Department of Architectural Engineering

Instructor Information :

Title	Name	Office hours
Professor	AHMED FAROUK MOHAMED HASSAN DEIFALLAH	
Associate Professor	Dina Muhammad Fathy Ors	
Assistant Lecturer	Mohamed Ahmed Reda Abas Ahmed	5

Area Of Study :

By the end of the course the students will be able to:

"Determine the reactions at the supports.

"Determine of the Internal Forces Diagrams for the statically determinate structures (Beams-Frames-Trusses) under applied static loads.

"Determine the stability and determinacy of structures.

Description :

Equilibrium, stability & compatibility, External & internal equilibrium of statically determinate plane structures: beams, frames & trusses, Normal, shear, tensional stresses & combined stresses, Elastic deformations, Introduction to the analysis of statically indeterminate structures through consistent deformations & moment distribution, Buckling of columns, Introduction to space structures.

Course outcomes :

a. Knowledge and Understanding: :

1 - Define basic concepts of structural modeling.

2 - Understand the behavior of structures.

b. Intellectual Skills: :

1 - Ability to analyze the engineering problems .

2 - Ability to derive different solution alternatives for engineering problems .

3 - Ability to assess the obtained results accuracy .

c. Professional and Practical Skills: :

1 - Ability to handle different types of structures.

2 - Ability to handle different structural systems .

d. General and Transferable Skills: :

1 - Ability to practice team work and present results .

Course Topic And Contents :

Topic	No. of hours	Lecture	Tutorial / Practical
Review of plane statics.	4	2	2
Types of loads and supports.	8	4	4
Stability of structures and degree of determinacy.	8	4	4
Determination of internal forces in Beams.	16	8	8
Determination of internal forces in Frames.	8	4	4
Determination of internal forces in Plane Trusses.	4	2	2

Teaching And Learning Methodologies :

Class Lectures .

Tutorials .

Course Assessment :

Methods of assessment	Relative weight %	Week No	Assess What
Final-term Examination	40.00		–
Mid-Term Examinations	30.00		–
Semester Work & Quizzes	30.00		–

Course Notes :

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Recommended books :

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Periodicals :

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Web Sites :

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