

## 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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