

Faculty of Engineering & Technology

Steel Structures for Architects

Information :

Course Code : SCM 418

Level : Undergraduate

Course Hours : 2.00- Hours

Department : Department of Architectural Engineering

Instructor Information :

Title	Name	Office hours
Lecturer	Mohamed Mohamed Elsayed Mahmoud	2
Assistant Lecturer	Ahmed Amr Kadry Ahmed Shaheen	10

Area Of Study :

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

- ✓ Know the theory of transferring loads in skeleton buildings.
- ✓ Know the main types of steel structure system elements.
- ✓ Knowing how to approximately sizing of each steel member.
- ✓ Fulfill the typical connections and details of steel structures

Description :

Design principles of steel structures, Structural systems, Design loads, Design of members subjected to axial forces, flexure, or shear, Design of bolted and welded connections, Structural details for trusses and frames, Details of connections, Steel structures.

Course outcomes :

a. Knowledge and Understanding: :

1 -	Recognize the scientific background (theories and history) of design of steel as structural material.
2 -	Define steel characteristics and how they affect the different types of steel structures.
3 -	List the main elements of each type of steel structures
4 -	Choose the main connections and suitable arrangement of bolts

b. Intellectual Skills: :

1 -	Analyze design problems.
2 -	Develop the design of two dimensional structural elements.
3 -	Create structural design of steel elements and connections.
4 -	Decide the best structural system and the optimum section size.

c. Professional and Practical Skills: :

1 -	Submit professional neat drawings.
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d. General and Transferable Skills: :

1 -	Communicate effectively.
2 -	Work within constraints of time

Course Topic And Contents :

Topic	No. of hours	Lecture	Tutorial / Practical
Preparation of General Layout	12	6	6
Calculation of loads and analysis preparation	4	2	2
Design of Tension Members	4	2	2
Design compression members	8	4	4
Design of beams	4	2	2
Design of connections and detailing	12	6	6
Design of beam-columns	8	4	4

Teaching And Learning Methodologies :

Lecture

Class Work

Course Assessment :

Methods of assessment	Relative weight %	Week No	Assess What
Assignments/Studio work	10.00		
Final exam	40.00		
In Class Quizzes	40.00		
Participation	10.00		

Course Notes :

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Recommended books :

1. The Egyptian Code of Practice of Design and Constructions of Steel Structures.

Periodicals :

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Web Sites :

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