

## Faculty of Engineering & Technology

### Metallic Structures 2

#### Information :

**Course Code :** SCM 417      **Level :** Undergraduate      **Course Hours :** 3.00- Hours

**Department :** Department of Structural Engineering & Construction Management

#### Instructor Information :

Title	Name	Office hours
Professor	Ahmed Hassan Yousef Aly	2
Professor	sherif Mohamed Ibrahim Mohamed	7
Professor	sherif Mohamed Ibrahim Mohamed	7
Assistant Lecturer	Reham Milad Kamel Samaan	8
Assistant Lecturer	Ahmed Amr Kadry Ahmed Shaheen	6
Assistant Lecturer	Reham Milad Kamel Samaan	8
Assistant Lecturer	Ahmed Amr Kadry Ahmed Shaheen	6
Assistant Lecturer	Reham Milad Kamel Samaan	8

#### Area Of Study :

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

- Understand the basic concepts and main principles
- Calculate the values of the essential terms
- Design and draw neat details
- Apply Codes provisions

Regarding fixed welded connections fixed bolted connections eccentric connections crane girders beam-columns section base connections portal frames

#### Description :

Riveted and bolted connections, High strength bolted connections, Welded connections, Base connections, Roof trusses, Rigid frames details

#### Course outcomes :

##### **a.Knowledge and Understanding: :**

- |     |   |
|-----|---|
| 1 - | a1- Define the main terms of eccentric connections    |
| 2 - | a2- Describe the main concept of beam-columns section |

##### **b.Intellectual Skills: :**

- |     |   |
|-----|---|
| 1 - | b1- Design the elements of fixed welded connections |
| 2 - | b2- Design the elements of fixed bolted connections |
| 3 - | b3- Analyze the system of eccentric connections     |
| 4 - | b4- Calculate the values of crane girders           |

5 -	b5- Analyze the system of beam-columns section
6 -	b6- Calculate the values of base connections
7 -	b7- Design the elements of portal frames

**c. Professional and Practical Skills: :**

1 -	c1- Draw neat details of fixed welded connections
2 -	c2- Draw neat details of fixed bolted connections
3 -	c3- Apply Code provisions regarding crane girders
4 -	c4- Prepare technical reports for beam-columns section
5 -	c5- Draw neat details of base connections
6 -	c6- Draw neat details of portal frames

**d. General and Transferable Skills: :**

1 -	d1- Work under stress
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**Course Topic And Contents :**

Topic	No. of hours	Lecture	Tutorial / Practical
fixed welded connections	8	6	2
fixed bolted connections	8	6	2
eccentric connections	8	6	2
crane girders	4	3	1
beam-columns section	12	9	3
base connections	8	6	2
portal frames	8	6	2
Revision	4	3	1

**Teaching And Learning Methodologies :**

Interactive Lec.
Discussion
Problem Solving
Project
Report / Present

**Course Assessment :**

Methods of assessment	Relative weight %	Week No	Assess What
Final exam	40.00		
Mid- Exam I, II	30.00		
Project	10.00		
Quizzes / Assig.	10.00		
Report / Present	10.00		

**Course Notes :**

Student Lecture Notes