

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 Ibrahem Mohamed	7	
Professor	sherif Mohamed Ibrahem 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:

Ænrich the student ability to know the main types of connections and know the theory of transferring loads (vertical and transverse loads).

Árrain the students to design riveted and bolted connections, high strength bolted connections, welded Connections and base connections. Árrain the students to design Roof trusses.

Ænrich the student ability to identify the rigid frames details.

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 Knows basic concepts of steel structural modeling
- 2 Estimate of steel structure members using Egyptian code (ECP) and different design methods (ASD).

b.Intellectual Skills: :

- 1 Analyzes structural system for each problem.
- 2 Identify suitable solutions for different structural
- 3 Describes different structures and choose optimum one
- 4 Justifies the obtained results accuracy.

c.Professional and Practical Skills: :

1 - Define different types of steel structures



2 -	Design different elements of structural systems	
3 -	Reproduce knowledge of mathematics, science and engineering	
d.General and Transferable Skills: :		
1 -	1 - Lead and motivate individuals.	
2 -	Manage time and meet deadlines	

Course Topic And Contents :			
Topic	No. of hours	Lecture	Tutorial / Practical
Bolted connections: Non-pretensioned bolted connections: shear, tension & shear and tension	5	3	2
Bolted connections: Pretensioned bolted connections: shear, tension & shear and tension	5	3	2
Welded connections; shear, tension & shear and tension	10	6	4
Eccentric connections: Types I & II bolted connections	5	3	2
Eccentric connections: Types I & II bolted connections (II)	5	3	2
Eccentric connections: Types I & II welded connections	5	3	2
Design of Crane Girders	10	6	4
Beam-columns: Rolled section beam-columns	5	3	2
Beam-columns: Built-up s ections beam-columns	5	3	2
Beam-columns: Batten plates, lacing bars and details	5	3	2
Column bases: hinged and fixed bases	10	6	4
Portal frames and splices	5	3	2

Teaching And Learning Methodologies:

Lecture

Class Work

Course Assessment :					
Methods of assessment	Relative weight %	Week No	Assess What		
Assignments/Studio work	5.00				
Final exam	40.00				
Performance	10.00				
Quizzes	5.00				
Two Mid Term Exams	40.00				

Course Notes :	
Student Lecture Notes	

