Course Description Form

1. Course Name:

Steel structure/ 2nd

2. Course Code:

Steel structure/ 2nd

3. Semester / Year:

(Course System)/2023-2024

4. Description Preparation Date:

20/3/2024

5. Available Attendance Forms:

Theoretical Classes

6. Number of Credit Hours (Total) / Number of Units (Total)

60 hrs./2

7. Course administrator's name (mention all, if more than one name) Name: Asst. Lect. Tabarak hussein Email: tabarak.hu@uowa.edu.ig

8. Course Objectives

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Course Objectives	 Introducing students to the basic principles of steel structure designs in civil engineering Introducing students to the applications of steel structures
	in practiceThe basics that are adopted in the analysis and design
	of the structural members of the steel structure
	• Identify the analysis and design of members exposed to tensile, compressive,
	bending and shear forces, as well as types of connection

9. Teaching and Learning Strategies							
Strategy 10. Course					rocessed se for nd shearing to dual- ections		
Week	Hours	Required Learning	Unit or subject	Learning method	Evaluation		
		Outcomes	name		method		
	16	design of beam for moments, shear and deflection	estimates, design of beams -zone 1(full plastic moment), lateral supports of beams Inelastic buckling (zone 2), bending coefficients, moment capacities (zone2). Design of beams- zone3, elastic buckling (zone3), AISC Beam design charts, noncompact sections design for shear deflections, unsymmetrical bending, and design of purlins	Theoretical and analytical			
20-24	20	Bending and axial compression (beam-columns	Design of base plates for concentrically loaded columns, Bending and axial compression.				
	2						

27-28 8 Exerentrically loaded builted connections Beam Columns, first order and second order moment, analysis. effective length, approximate second order analysis method. magnification factors, moment modification factors, design of be columns in braced frames. design of be columns functions unbraced frames. 25-26 8 Bolted connection joints, silp-critical joints, silp-critical silp-critical connect joints, silp-critical method, subjected to a and tension, critical connect subjected to a and tension. 29-30 8 Welded connections Welding advanages, types of welding.					
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Image: classification of welds, type of weld, type of welds, plug and slot welds, welding symbols, strength of welds, ASC requirements, size and length limitations of fillet welds, 8 strength of filet welds for t members, streng of plug and welds. 11. Course Evaluation • Oral examination during daily classes. (4/100) • Joined discussions during lectures. (3/100) • Attendance. (3/100) • Monthly examinations. (60/100) • Monthly examinations. (60/100) • Mid-year examinations. (60/100) • Attendance (scientific journals, reports) Recommended books and references (scientific journals, reports) William T. Segui "Stret Design", 6th Edition, 2018. William T. Segui". Electronic References, Websites William T. Segui".						
Required textbooks (curricular books, if any) AISC Manual 15 th edition Structural Steel Design 5th edition, Jack C. McCormac Main references (sources) AISC Manual 15 th edition Structural Steel Design 5th edition, Jack C. McCormac Recommended books and references (scientific journals, reports) William T. Segui "Steel Design", 6th Edition, 2018. McCormac, J.C., "Structural Steel Design", 6th Edition, 2018.	11. Course Evaluation Oral examination during daily classe Joined discussions during lectures. (Attendance. (3/100) Monthly examinations (30/100)	f weld, type of fillet welds, plug bt welds, welding ls, strength of AISC ements, d length ions of fillet design of simple elds, 8 strength t welds loaded ersely, design of wel connections both longitud and transverse f welds, design fillet welds for t members, stren of plug and welds.				
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Main references (sources) Design 5th edition, Jack C. McCormac Recommended books and references (scientific journals, reports) William T. Segui "Steel Design", 6th Edition, 2018. McCormac, J.C., "Structural Steel Design", 6th Edition, 2018 Electronic References, Websites William T. Segui "Steel Design", 6th Edition, 2018. McCormac, J.C., "Structural Steel Design", 6th Edition, 2018. McCormac, J.C., "Structur	Required textbooks (curricular books, if any)	Design 5th edition, Jack C. McCormac				
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