



Jordan University of Science and Technology
Faculty of Engineering
Civil Engineering Department

CE738 Advanced Strutral Steel Design

Second Semester 2023-2024

Course Catalog

3 Credit Hours. The objective of this course is to learn how to apply the simple design aspects of steel members for advanced problems in steel design. The course is designed to cover more complicated aspects of steel members subject to various types of loadings. Several subjects will be covered as: a frame member subject to axial tension and bending, a frame member subject to axial compression and bending with and without sidesway. Students are urged to provide new design formulas to cover design of different frame members. In order to bridge the gap between theory and practice, the course is devoted to providing a proper and safe joint design subject to various loading combinations. Hence, resulting in a more practical steel structure.

Teaching Method: On Campus

Text Book

Title	Structural Steel Design-LRFD Method
Author(s)	J. C. McCormack
Edition	5th Edition
Short Name	Reference #1
Other Information	Prentice Hall Publishing Company

Course References

Short name	Book name	Author(s)	Edition	Other Information
Reference #2	Steel Structures: Design and Behavior, Emphasizing Load and Resistant Factor Design	Charles G. Salmon, and John E. Johnson	5th Edition	Addison Wesley Longman
Reference #3	Design of Steel Structures	E. Gaylord, C. Gaylord and J. Stallmeyer	5th Edition	McGraw Hil
Reference #4	Manual of Steel Construction (AISC); LRFD method,	AISC	14th Edition	2003, 2009, 2013 & 2016

Instructor	
Name	Prof. Ghazi Abu-Farsakh
Office Location	C2 L3
Office Hours	
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Class Schedule & Room
Section 1: Lecture Time: Mon, Wed : 13:00 - 14:30 Room: C2008

Tentative List of Topics Covered		
Weeks	Topic	References
Weeks 1, 2, 3, 4	Revised design of tension, compression and beam steel members	From Reference #1, From Reference #4
Weeks 5, 6	Analysis and design of frame member subject to axial tension and bending	From Reference #1, From Reference #2, From Reference #4
Weeks 7, 8, 9, 10	Analysis and design of beam-columns in braced and unbraced frames	From Reference #1, From Reference #2, From Reference #4
Weeks 10, 11, 12, 13, 14	Bolted connections subject to various loading combinations	From Reference #1, From Reference #2, From Reference #3, From Reference #4
Weeks 15, 16	Seminars for presenting term papers	

Mapping of Course Outcomes to Program Outcomes	Course Outcome Weight (Out of 100%)	Assessment method
To be able to apply the basic principles of mechanics and structural analysis to design the various steel members	20%	

Relationship to Program Student Outcomes (Out of 100%)											
PI-1a	PI-2a	PI-2b	PI-2c	PI-2d	PI-3a	PI-4a	PI-4b	PI-5a	PI-6a	PI-6b	PI-7a

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