Course Number and Name	CE316-3 Design of Steel Structures
Credits hours	3 Credits hours
Contact hours	4 Contact hours; 2 for lecture, 2 for tutorial and 0 for practical
Instructor/s name/s	Prof. Ahmed El-Abbasy
Textbook	Jack C. McCormac and Stephen F. Csernak, "Structural Steel Design," 6th Edition, 2017.
Other supplemental materials	1- Handout Notes, prepared by the instructor. 2- Lecture notes. 3- Saudi Building Code, Steel Structures Requirements, SBC 306, 2018 4- Saudi Building Code (Steel Structures commentary, SBC 306C. 5- Saudi Building Code, Loads and Forces Requirements, SBC 301, 2018.
Specific course information	
a. Catalog description	An introduction to types and properties of structural steel. A comparison is illustrated between the allowable stress design method, (A.S.D.) and the load and resistance factors design method, (L.R.F.D.). Drawings of layout of steel structures including wind bracing are presented. Analysis of steel structures at different cases of loading (D.L, L.L. and W.L.) is done. Factored design forces are determined. Tension and compression members as well as, axially loaded columns are designed. Also, design of bolted and welded connections is included. Detail drawings of the connections are obtained. The course contains design of flexural elements, (floor and roof beams).
b. Prerequisite	CE214-3 Materials of Construction and CE215-3 Structural Analysis (1)
c. Required / Elective	Required
Specific goals for the course	
Course Learning Outcomes (CLOs)	By the end of this course, the student will be able to: 1. Analyze tension, compression, and flexural members. 2. Design ties, struts, and beams. 3. Design bolted and welded connections. 4. Develop layout and detailing workshop drawings. 5. Work separately and in work groups.
Student outcomes that addressed by the course	The following student outcomes are addressed by the course: SO1: An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics. SO2: An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors. SO5: An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives

Topics to be covered	
Topic	**Number of weeks**
Introduction to design of steel structures.	**2**
Analysis and design of tension members.	**2**
Analysis and design of compression members.	**4**
Design of bolted connections.	**2**
Design of welded connections.	**2**
Introduction to beams.	**1**
Design of beams	**2**

Schedule of Assessment Tasks for Students During the Semester

Assessment task (i.e., essay, test, quizzes, group project, examination, speech, oral presentation, etc.)	Week due	Proportion of Total Assessment
Homework	The entire term	10%
Team Assignment	The entire term	10%
Midterm-exam I	Week 6,7, or 8	15%
Midterm-exam II	Week 10, 11, or 12	15%
Term Project	Week 14	20%
Final Exam	Last two weeks	30%

CLO-SO Map							
	S01	**S02**	**S03**	**S04**	**S05**	**S06**	**S07**
CLO 1	√	√					
CLO 2	√	√					
CLO 3	√	√					
CLO 4	√	√					
CLO 5					√		