

Design of Steel Structures

Course Code CE-413	Credit Hours 3-0
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Course Description

CE 413“Design of Steel Structures”is an advance course in steel structures. This course is recommended for seniors in the civil engineering program at NICE (SCEE), who are interested in learning the design of steel structures.It will consist of 16 weeks of lectures (including holidays and breaks). Students will be assigned homeworks, and graded through quiz and exams.

Text Book:

1. Steel structures: design and behavior: emphasizing ASD method. By Charles G. Salmon, John E. Johnson, Faris Amin Malhas, 2009 Pearson Education, Inc, Pearson Prentice hall, new jersey
2. Simplified design of steel structures By James E. Ambrose, Harry Parker,1997 John Wiley & sons Inc
3. Structural steel design By Jack C. McCormac

Reference Book:

Prerequisites :

CE 411 Steel Structures.

ASSESSMENT SYSTEM FOR THEORY

	Without Project (%)	With Project/Complex Engineering Problems (%)
Quizzes	15	10-15
Assignments	10	5-10
Mid Terms	25	25
Project	-	5-10
End Semester Exam	50	45-50

ASSESSMENT SYSTEM FOR LAB

Lab Work/ Psychomotor Assessment/ Lab Reports	70%
Lab Project/ Open Ended Lab Report/ Assignment/ Quiz	10%
Final Assesment/ Viva	20%

Teaching Plan

Week No	Topics/Learning Outcomes
1	<p>Basic Considerations for the design of an industrial building using ASD with some examples by LRFD</p> <ul style="list-style-type: none"> a. Loading criteria, and load combinations b. Study of basic rolled sections c. Plate Girders Design d. Positioning and sizing of structural members e. Drainage and insulation f. Material properties used for the analysis g. Roofing or cladding materials and their
2	<p>Analysis of Structures</p> <ul style="list-style-type: none"> a. Analysis of a complete industrial structure for various load combinations b. Ensuring correctness of analysis using equilibrium c. Retaining analysis results for governing load combination d. Allowable stress checks
3	<p>Design of Structures</p> <ul style="list-style-type: none"> a. Design of structural members and detailing b. Design of connections
4	<p>Special Topics</p> <ul style="list-style-type: none"> a. Effect of Heat Treatment b. Brittle failure of steel structures

Practical: Nil.