

## Construction & Building Engineering Courses (CB)

Structural Analysis & Metallic Structures Courses Group

### CB 546 – Special Topics in Steel and Composite Structures

#### COURSE INFORMATION

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Course Title: Special Topics in Steel and Composite Structures

Code: CB 546

Hours: Lecture – 2 Hrs.                      Tutorial – 2 Hrs.                      Credit –3.

Prerequisite: CB 444

#### GRADING

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Class Performance/Attendance: 10%

Midterm # 1/Assignments – (7<sup>th</sup> Week): 30%

Midterm # 2/Assignments – (12<sup>th</sup> Week): 20%

Final Exam: 40%

#### COURSE DESCRIPTION

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Design load for steel bridges according to the Egyptian code requirements, Design of steel structural elements of bridges. Construction methods for steel bridges. Design of composite structural elements, columns beams and beam- columns. Design of and Constructions of structural elements made of cold-formed steel sections.

#### TEXT BOOK

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Egyptian code of practice for steel construction and bridges code No.205/2001.

#### REFERENCE BOOKS

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Composite structures of Steel and Concrete by JOHNSON, R.P Publisher: Volume 1: beams, slabs, columns and frames for buildings, 2<sup>nd</sup> Edition, Blackwell Scientific Publications, London, 1994.

#### COURSE AIM

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The course concerns with some topics of design, which was not covered in the previous design courses.

## APPENDIX A-164

### SPECIFIC OUTCOMES OF INSTRUCTION

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The student should be able to design the R.C and steel bridges and analysis and design composite structures.

### COURSE OUTLINE

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*Week Number 1-5:* Design of composite steel-concrete structural elements (composite beams, composite columns & composite beam-columns).

*Week Number 6-10:* Design and construction of Steel Bridges & 7th week examination.

*Week Number 11-15:* Design and construction of Structural Elements made of cold-formed steel sections & 12th week examination.

*Week Number 16:* Final Exam.

### COURSE COORDINATOR AND DEMAND

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*Course Coordinator:* Dr. Mostafa Khalifa.

*Course Demand:* *Elective*