

Construction & Building Engineering Courses (CB)

Construction Engineering Courses Group

CB 221 – Construction Engineering Drawings

COURSE INFORMATION

Course Title: Construction Engineering Drawings

Code: CB 221

Hours: Lecture – 2 Hrs. Tutorial – 4 Hrs. Credit –3.

Prerequisite: ME 151

GRADING

Class Performance/Attendance: 10%

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

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

Final Exam: 40%

COURSE DESCRIPTION

Introduction to construction engineering as related to the overall types of Engineering projects. A brief review of the construction industry; site layout, erection of steel and concrete structures. Drawings to demonstrate the concepts of various types of civil engineering and construction projects which include: residential and industrial buildings, water resources projects, urban transportation systems, coastal development projects, and environmental protection projects. Design and construction drawings which include architectural systems, structural systems, mechanical and electrical installation. Field strips and analysis of local construction projects..

TEXT BOOK

Construction Engineering Drawings by S.Ibrahim, Publisher: Arab Academy for Science & Technology & Maritime Transport, Alexandria, Egypt, 2003.

REFERENCE BOOKS

Standard Handbook for Civil Engineers by Merritt, F.S. Publisher: McGraw Hill Book Co., New York, 1983.

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Civil Engineering Drawings by Abd El-Rehim, M., and Mostafa, M.R. Publisher: Dar El-Rateb El-Jamiah, Beirut, Lebanon, 1984.

COURSE AIM

The course aim of the course is to introduce the student with the knowledge of construction engineering drawings.

SPECIFIC OUTCOMES OF INSTRUCTION

- The student will be familiar with the construction industry and the overall types of engineering projects pertaining to land and industrial development.
- The student will be familiar with engineering projects drawings for the basic components of structures.
- The student will be familiar with engineering project's drawing for the basic component of structures.

COURSE OUTLINE

- Week Number 1-2:* Construction industry:
- Scope of projects; Phases of projects execution & operation to turn-key and contract documents (designs and specification drawings).
 - Building structural systems; Foundations, frames, columns, and bearing walls.
- Week Number 3-4:* Retaining walls :
- Application in building & water resources; Stepped retaining walls and plain concrete retaining walls.
- Week Number 5-6:* Earth work:- Canals and Roads.
- Week Number 7:* Stairs:- Types of stairs and geometric design of stairs.
- Week Number 8-9:* Residential & Commercial buildings:
- Architectural plans, Electrical plans, Plumbing plans and Phases of building execution.
- Week Number 10-11:* Steel drawings and construction:
- Steel columns on column bases, Trusses with angles and Trusses with hollow section.
- Week Number 12-15:* Transportation systems:
- Rolled steel joist bridges and Timber bridges.
- Week Number 16:* Final Exam.

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COURSE COORDINATOR AND DEMAND

Course Coordinator: Dr. Mohamed Emam.

Course Demand: *Required*