

Construction & Building Engineering Courses (CB)

Construction Engineering Courses Group

CB 322 – Building Construction

COURSE INFORMATION

Course Title: Building Construction

Code: CB 322

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

Prerequisite: CB 221

GRADING

Class Performance/Attendance: 10%

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

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

Final Exam: 40%

COURSE DESCRIPTION

The course covers topics in the area of building construction in view of both aspects; construction engineering and architectural engineering. The subjects related to the architectural engineering are architectural engineering drawings, brick works, insulation, stairs, building openings, services and finishing materials. The subjects related to construction engineering are site and temporary works, substructure, superstructure, health and safety.

TEXT BOOK

Construction Technology (Volumes 1-4) by Chudley, Roy, Publisher: Longman Group Ltd., Essex, England, U.K.

REFERENCE BOOKS

Building Design and Construction Handbook by Merritt, F.S., and Ricketts, J.T. Publisher: McGraw-Hill, Inc., New York, 1994.

Practical Manual of Load Development by Colley, B.C. Publisher: McGraw-Hill, Inc. New York, 1993.

The Construction of Buildings by Barry, R. Publisher: BSP Professional Books, London, U.K.

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Construction Methods and Planning by Illingworth, J.R. Publisher: E & FN SPON, London, 1993.

COURSE AIM

The course aims at introducing the student to the knowledge for components of building construction.

SPECIFIC OUTCOMES OF INSTRUCTION

- The student should have skills and knowledge required to overlook and coordinate site preparation activities for building constructions.
- The students will be acquainting with the systems used in both substructure and superstructure.
- The students will be able to conduct system design and execution of construction plans for buildings.

COURSE OUTLINE

- Week Number 1:* Architectural drawings:
- Plan, sections, and Elevation
- Week Number 2:* Building opening:
- Doors and windows.
- Week Number 3:* Stairs:
- Concrete stairs, Metal Stairs, Timber stairs.
- Week Number 4:* Insulation:
- Water insulation, Sound insulation, Thermal insulation.
- Week Number 5:* Services:
- Drainage, Sanitary fittings and pipe work, Electrical installation, Mechanical installation, Gas installation.
- Week Number 6-7:* Finishing materials:
- Floors, Ceiling, Walls.
- Week Number 8:* Superstructures:
- Frames, arch slabs, arch girders, shells, cones, domes, silos and folded plates.
- Week Number 9-10:* Site works:
- Site preparation, and storage of materials.
- Week Number 11:* Shallow Foundations:
- The construction of isolated footings, combined footings, strip footings, and raft foundations.

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Week Number 12: Deep foundations:

- The construction of pile foundations and pile caps, and deep basement.
- Excavation, filling & scaffolding.

Week Number 13: Reinforced concrete elements:

- The construction of slabs, beams, columns, stairs, and joints.

Week Number 14: Slabs systems:

- The construction of solid slabs, flat slabs, hollow block slabs, and waffle slabs.

Week Number 15: Health and safety in construction

Week Number 16: Final Exam.

COURSE COORDINATOR AND DEMAND

Course Coordinator: Dr. Mohamed Emam.

Course Demand: *Required*