

Construction & Building Engineering Courses (CB)

Environmental Engineering Courses Group

CB 531 – Technical Installations in Buildings

COURSE INFORMATION

Course Title: Technical Installations in Buildings

Code: CB 531

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

Prerequisite: CB 322

GRADING

Class Performance/Attendance: 10%

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

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

Final Exam: 40%

COURSE DESCRIPTION

Thermal Comfort, Heating, Ventilation & Air Conditioning (HVAC), Central heating & cooling systems, Distribution Media, Delivery devices, Heat and Moisture transfer in buildings, Lighting, On-site power generation, Normal electrical systems, Special systems, Water supply & Drainage systems, Types of fixtures, Private sewerage systems, Fire protection systems, Architectural acoustics.

TEXT BOOK

Fundamentals of Environmental Engineering by James R. Mihelcic. Publisher John Wiley & Sons, Inc. NY, USA 1999.

REFERENCE BOOKS

Building design & Construction Hand Book by MERRITT F.S., RICKETTS J.T
Publisher: McGraw Hill, Inc, New York, 1994.

COURSE AIM

The course aims at understanding of the physical requirements of buildings, and the equipments required for building control systems.

SPECIFIC OUTCOMES OF INSTRUCTION

The student should be able to appreciate of building requirements.

- The student should be able to identify the various HVAC systems, electrical systems, plumbing systems, fire protection systems, types of thermal insulation and architectural acoustics in buildings.

COURSE OUTLINE

Week Number 1-2: Human comfort and health requirements

Week Number 3: Thermodynamics Principles

Week Number 4: Active HVAC systems – Heating systems

Week Number 5: Active HVAC systems – Cooling systems

Week Number 6: Thermal insulation in buildings

Week Number 7: Water proofing & moisture problems in buildings

Week Number 8: Lighting systems

Week Number 9: Vertical circulation

Week Number 10: Execution of electrical systems in buildings

Week Number 11-12: Plumbing systems

Week Number 13: Fire protection systems

Week Number 14-15: Architectural acoustics in buildings

Week Number 16: Final Exam.

COURSE COORDINATOR AND DEMAND

Course Coordinator: Dr. Ola Diaa El Monayeri.

Course Demand: *Required*