



Department of Architecture
College of Engineering
University of Cihan- Sulaimaniya

Subject: Building Services I

Course Book – Year: Third stage (2023-2024)

Lecturer's name: Sarko Hassan Sleman

Academic Year: 2023/2024 – First Semester

Course Book

1. Course name	Building Services I
2. Lecturer in charge	Lecturer: Sarko Hassan Sleman
3. Department/ College	Architectural Engineering
4. Time (in hours) per week	Sunday: 09:00 – 11:00 AM (Theory)
5. Office hours	Monday: 09:00- 11:00 AM
6. Course code	
7. Teacher's academic profile	Assistant Lecturer, BSc. Architectural Engineering – Cihan University- Erbil. M. Arch. Design & Architecture –Cyprus International University.
8. Keywords	All types of building elements, foundation, wall, stair, openings, roof, floor, Finishing.
9. Course overview:	<p>The importance of the course lays in the fact that the student in the 3rd year of his studies in the department, begins to take architectural Projects which are a little bit complicated in their requirements including their engineering Services, and since all the courses taken by the student during his academic study pour in consolidating his skills as an architectural designer, this course comes in a good timing to make the student learns and acquires so many principles concerning engineering Services systems and their role in integration and coordination with the other architectural constructional and structural systems in the building.</p>
10. Course objective:	<p>Defining the Eng. Services systems in buildings, they will be in three main types: -</p> <p>A- Electrical. B- Mechanical C- Sanitary</p> <p>2- The rule of these systems in providing comfort and facilities to the users of the building.</p> <p>3- Considering these systems as vital physical elements in the building, the following facts shall be defined and clarified: -</p> <p>A- Relationships and integration among them.</p> <p>B- Relationships and integration between them and the architectural and constructional-structural systems.</p> <p>C- Spaces needed by these systems, which shall be identified within (and as a part of) the building and its architectural configuration.</p> <p>4- The most suitable and efficient types of these systems according to building types, functions, complications, heights, sizes,etc.</p>

11. Student's obligation

Attending the lectures in order to get the Main information from the lecture text, what are written on the board, and what are said by the tauter, as well as the other supplementary obligations inside and outside the class.

12. Forms of teaching

By giving the theoretical input through the lectures, performing a limited number of site visits to certain buildings which are in the stage of eng. Services execution, and presenting reports and presentations privately or within group work as well as the semester, monthly, and quiz exams.

13. Assessment scheme

Midterm Examination	%30
Paper, Quiz, Project	%10
Lab exam	NA
Final Practical Examination	NA
Final theory exam	%60

14. Student learning outcome:

The student, after finishing the course and according to the objectives, is supposed to earn knowledge in the following subjects:

- 1- Types of engineering Services systems in buildings.
- 2- Comfort condition of the users and role of these systems in achieving it.
- 3- Relationships, interactions, spaces, and routs requirements of these systems within the building, to be down by the designer architect.
- 4- What have been mentioned above should begin from the preliminary stages of the architectural concept to the final advanced stages of design.
- 5- Basics of dealing and communicating with services engineers, those who design the building services systems across the whole stages of design, in order to understand and fulfil their requirements.

1- Permanent references:

- **Mechanical & Electrical Equipment. McGraw Hill publications. USA**
- **Barry series of building construction and services.**
- **Mitchell series of building construction and services.**
- **American, European, and local regulations and standards concerning eng. services systems in buildings and urban areas.**

2- Assistant references (for temporary referring):

- **A number of Articles, Papers, and lectures on the Subject from Web-sites.**

It's student's task to search for web sites related to the subject.

16. The Topics:

Lecture No	Topic
1	Introduction to the subject & role of Eng. Services in modern buildings.
2	Main types of Eng. Services in buildings.
3	Lifts and elevators for passengers, goods, and freight.
4	Escalators & conveyer belts.
5	Garbage chutes.
6	Comparison between air-cooling & air-conditioning systems in buildings.
7	Characteristics & specification of air-cooling systems.
8	Characteristics & specification of air-conditioning systems.
9	Types of air-conditioning systems in buildings and how to choose the suitable syst. For a particular build.
10	Window type AC system
11	Split type AC system – single and multi.
12	VRF AC system.
13	Partial & central AC package system.
14	Central AHU - AC system, Central FCU - AC system, Service spaces required in the building for AC various systems.
Final Examination	

17. Peer review

Main Lecturer in charged

Sarko Hassan Sleman

Head of The Department

Tara Azad