Department of Architecture
College of Engineering
Salahaddin University – Erbil

Course Book of
Design Methods
Second Year
2023 – 2024 (2nd Semester)

Prof. Dr. Faris Ali Mustafa

Mrs. Sakar Yousif (PhD Student)

Course Book Description

1. Course name	Design Methods
2. Lecturer in charge	Prof. Dr. Faris Ali Mustafa, MSc Sakar Yousif
3. Department/ College	Architecture, Engineering
4. Contact	e-mail: faris.mustafa@su.edu.krd
5. Time: hours/week	Theory: 4 hours/week (2 theory + 2 practical)
6. Time table	Tuesday from 11:00 AM - 3:00 PM
7. Course code	
8. Teacher's academic profile	Dr. Faris Ali Mustafa is a Professor and a member of the post-graduate studies and scientific affairs committee at the Department of Architecture, College of Engineering, Salahaddin University – Erbil, Iraqi Kurdistan Region. He was the Head of the Quality Assurance Committee at the same department from 2011-2013. He is a member of the Commission on Certificate Equivalency in the Ministry of Higher Education and Scientific Research, Kurdistan Region, Erbil, Iraq, from 2012 until 2022. He was appointed as a deputy head of the department of architectural engineering, at the same university in 2004-2005. He was also a consultant architect and the founding member of the Nvar Center for Architecture in Erbil City in 2000. A registered architect in the Iraqi Engineers Union (IEU) and Kurdistan Engineers Syndicate (KES) since 1994. His specialization is architectural design studies. His researches particularly address building design and its functional efficiency and performance applying space syntax theory and its techniques and methods. His research interests are in Space Syntax, Interior Design, Building Performance Evaluation (BPE), and Architectural Design.
9. Keywords	Architecture, architectural design, design methods, design process, philosophy of design...etc.

10. Course Overview:

- Design Methods is one of the theoretical subjects related to the core of architecture. It provides a sound base for students to be familiar with the basic principles of architectural design required for all phases of architecture in general and in particular topics related to design such as architectural design, interior design, landscape design...etc.
- Students have to study this subject in detail to understand the different methods of the architectural design process (traditional and new methods).
- Design Methods will be presented in two parts (theoretical and practical); theoretically, there will be weekly lectures to provide clarifications on the theoretical and cognitive aspects related to the design process and the procedures and steps required to deal with the existing architectural condition.
- As for the practical level, to verify and investigate these theoretical aspects, some projects will be elected to follow the procedures and steps that the designers have followed to reach the final production of their projects through conducting workshops and extensive discussions for their reports and assignments.

11. Course Objective:

This subject aims to show and analyze methods of the architectural design process, familiarizing students with different methods and helping students how to overcome design problems during the design process.
The main objectives could be summarized as follows:
1. **O**pen a window to the architecture and design methods, explain why are they needed and where they came from.
2. **T**o introduce architectural design methods and to discuss their importance.
3. **T**o describe types of architectural design methods that may be used.
4. **T**o introduce architectural design and to discuss its importance.
5. **T**o explain the architectural design decisions and their crucial role in decision-making in the design process.
6. **T**o understand the meaning of design, as mental habits, and how the designer tries to use creative thinking.
7. **T**o study the factors that affect the design methods in the field of architectural design.
8. **I**ncreasing the ability of the students to understand the new methods of architectural design.
9. **T**o teach the students the ways used by architects during the design process.
10. **T**o teach the students the ways used by architects to solve design problems during the design process.

12. Student's Obligation:

- The participation of the students in the lecture is a **basic and crucial point for the enrichment of the course**. In general, students are required to attend each lecture due to its sequential nature as each lecture is related to the other lecture, and therefore the absence in one of the lectures will create a lack of understanding of the subject.
- Due to the basic design nature of the course subject, students need to contribute to the lectures **by asking questions, giving feedback, and even introducing new ideas.**
- Students are required to **prepare seminars at the end of the course** to show and discuss related topics, and other students may be asked to enrich the presentation. **Students must be fully prepared for any quiz.**

13. Forms of Teaching:

- Students will be provided with the main references at the beginning of the year.
- The teacher uses PowerPoint presentations by using a data show projector and whiteboard for further understanding.
- The teacher encourages students to participate in the discussion in the lectures.
- For the practical lectures, students will be divided into groups to discuss a specific topic or design project through structured workshops every week or two.

14. Assessment Scheme:

Assessment of students will be as follows:
Students are required to do one closed book exam in the middle of the semester besides other assignments including one assignment report at least. The exam has 25 marks,

classroom activities, assignments and reports, and short quizzes together counting 15 marks. There will be a final exam on 60 marks. So that the final grade will be based on the following criteria:

Mid-semester exam: 15-20%
2 quizzes (min.), Classroom participation, and assignments 15-20%
Final exam: 60%

Constructive classroom participation, assignment presentation, and class attendance will be assessed by the lecturer during the semester. Examinations and assignments require analytical work, not just memorizing topics or articles.

15. Student Learning Outcome:

- Design Methods one of the most important topics in architecture since the appearance of architectural science.
- Given the philosophical and theoretical nature of the semester subject. Thus, students need to attend lectures and actively participate in the class.
- Students will be familiar with the core topics of architectural design and its methods; dealing with the design process in architecture based on scientific procedure; Students will be able to know how all different stages could be controlled in the architectural design process.
- Students learn how to cover different design problems at different stages of the design process as well as knowing to select the best solution for each problem. Accordingly, the student learns how to make the right decision during the design process, which is the most difficult stage in the field of architectural design.
- After the lecturer provides the student with a definition of the foundations and rules of dealing with the design process according to the basics of architectural criticism, the student will have the ability to self-criticize their architectural designs and projects.

16. Course Reading List and References:

1- Design Method, Seeds of human futures. John Christopher Jones, 1980.
2- How designers think. Bryan Lawson, Oxford, MA, 2005.
3- What designers Know. Bryan Lawson, Oxford, MA, 2005.
4- Design Thinking., Peter G. Rowe, MIT Press, 1987.
5- 100 Things every designer needs to know about people. Susan Weinschenk, U.S.A, 2011.
6- Notes on the Synthesis of Form. Cristopher Alexander, Harvard University Press, Cambridge, Massachusetts, 1964.
7- The Sciences of the Artificial. Simon H.A., The MIT Press, 1981.
8- Designerly Ways of Knowing: Design Discipline Versus Design Science. Nigel Cross, Design Issues, 17(3), pp. 49 – 55, 2001.
9- The Design Research Society, DRS, is an organization of the design research community. You can find more about their activities and services at their website, https://www.designresearchsociety.org/cpages/publications-1
10- Design Studies Journal: http://www.sciencedirect.com/science/journal/0142694X
11- Environment and Planning B: Planning and Design, https://journals.sagepub.com/toc/epb/current
12- Design Strategies in Architecture: An Approach to the Analysis of Form, Geoffrey H. Baker, Routledge, 2006.

17. Topics and Lectures:

Second Semester		
Week No.	**Topics**	**Lecturer's name**
1	**Course overview, Introduction, the origin of architecture**	Dr. Faris Ali Mustafa
2	**Knowledge, logic, and philosophy**	
3	**Logic and philosophy in architecture**	
4	**What is the design and design process?**	
5	**Design in architecture, ways of design**	
6	**Traditional methods: Design by drawing**	
7	**Developing design process** **The need for new Methods** **How do traditional designers copy with complexity?**	
8	**The need for new methods** **In what ways are modern design problems** **More complicated than traditional ones?**	
9	**The need for new methods** **What are the interpersonal obstacles in solving modern design problems?**	
10	**The need for new methods** **What are the new kinds of complexity beyond the scope of the traditional design process?**	
11	**How do you design - design process** **What do Designers Need for Design**	
12	**Design process and strategic thinking in architecture**	
13	**Design process: stages of design process**	
14	**Concept in architectural design process, architectural design variables, architectural design problem – 1**	
15	**Concept in architectural design process, architectural design variables, architectural design problem – 2**	
Hint: Quizzes would be included within lectures.		
18. Practical Topics: **Will be selected according to the lectures' topics (discussions, assignments, workshops…etc.)**		