



Department of Architecture
College of Engineering
University of Salahaddin- Hawler
Subject: Building Construction
Course Book (Year 2)
Lecturer's name:
Ausama Magid (Assistant Lecturer, MSc)

Academic Year: Second Semester 2024

Course Book

1. Course name	Building Construction
2. Lecturer in charge	Ausama Magid Omer,
3. Department/ College	Architecture/ Engineering
4. Contact	E-mail: ausama.omer@su.edu.krd Tel: 07504491858
5. Time (in hours) per week	Theory and practical: 4
6. Office hours	Monday 13:30 to 17:30
8. Teacher's academic profile	
9. Keywords	Building structure elements, construction systems and technical, project management methods and sustainability –green building index

10. Course overview:

The content of the subject of building construction in the architecture study is designed to be of different syllabus from a similar title in civil engineering. In architecture, the subject mostly answers questions of (WHY) instead of answering questions of (HOW) as in civil engineering. For answering questions of (WHY), students have to be acquainted and aware to the design fundamentals of the subject.

11. Course objective:

- Much of our knowledge in architectural design is vaguely and qualitatively stated. Their authority rest more on intuitive conviction than on theoretical demonstration.
- In contradiction to that, in addition to the qualitative knowledge, building construction quantitative knowledge are associated to and based on measurable parameters.
- This subject stimulates the awareness of the students that most building systems have inherent attributes of proportion, based on its physical characteristics. These vibrant proportions are a deduction of accumulated researches and experiences and not due to intuitive conviction as the golden ratio as an example.
- Goals of building construction subject is to design building systems that have strength, stiffness, stability, synergy, durability, recourse efficiency and beauty.

12. Student's obligation

- Students are required to do studio and homework according to the teaching program. They are obligated to attend to the lecture as this lecture is all related to practicing techniques to improve Building materials, construction system, project management and Sustainability skills as well as all trail tests and exams.
- Choose the appropriate structural and architectural systems that match with the design assignments.
- Assess the preliminary dimensioning and introduce the final geometry of all systems.
Produce basic building details ,structure, construction of building elements and details of each system

13. Forms of teaching

Different forms of teaching will be used to reach the objectives of the course:

- Language: English, official, improve ability to read, hear and write. Repeating in Kurdish by students.
- Power point presentations for all materials. Explanation, drawings.

- Demonstrating the systems characteristics using available simple material in class.
- Practicing every week theoretical data theory earlier in one week, sketch, individual, different cases, in practical classes by analysing problems and finding solutions depending on standards and rules and transferring it to drawings by manual drafting. Class activity will be designed to let the chance for practicing on several aspects of the course in the classroom.
- Students will be asked to prepare a study individually on selective local technical problems by performing measurements and analysing them to form results and conclusions with the help and supervision of the instructor.
- Reports have to be submitted by students concerning the general basic topics of the course contents.
- A model of a unique building system has to be submitted by each student to cover all building systems of the subject.
- Quizzes will be hold during the academic year without prior notice to keep you continually reviewing the subject.
- Many questionnaires are held to stimulate students reviewing their understanding certain topics of relation to the subject but out of its contents.
- Last week of semester the student have to submit a set of drawings that taken by home work of each building construction system according to each student project

To get the best of the course, it is suggested that you attend all the classes, review the required lectures and teacher's notes regularly, submitting the weekly class work drawings and homework reports on time, all of them are foundations for the course. Try as much as possible to participate in classroom discussions, preparing the assignments given in the course.

14. Assessment scheme

This lecture will be evaluated according to the following form:

The students are required to do two closed book theoretical and practical exams 15 mark. The weekly class work drawing (set drawings) submissions for the academic semester count 15 marks. The home work submissions, attendance, classroom activities, research paper and quizzes count 10 marks. There will be final exams, theoretical and practical, will count 60 marks respectively. The final grade will be based upon the following criteria:

Midterm exam (theoretical and practical): 15%

The weekly class work drawing (set drawings) submissions for the academic semester :15 %

The homework submissions, attendance, classroom activities, research paper and quizzes: 10%.

Final theoretical and practical exam: 60%

Constructive classroom participation, submitting assignments, and attending class will be evaluated by the lecturer over the year and used in borderline cases to determine the final grade. Exams and assignments require analytical work and not just memorization of topics or articles.

Course material

Required books:

- Mitchells, Building Envelope, Peter Burberry.
- Mitchells, Building Structure, Peter Burberry.
- Time saver Standard, Design Data.
- Neufert Architects Data.
- Architectural Graphic Standard.
- AJ Handbook of Building Structure.

Websites and magazines

<http://www.reddit.com/domain/archrecord.construction.com>

<http://en.structurae.de/structures/index.cfm>

<http://www.pubs.asce.org/journals/architectural>

And any other Environment textbook published in 21st century.

The core materials of the course consist of the above books, articles from media and internet, and lecture's notes, make sure you read and practice all the materials and prepare well before going for the exams.

Students are encouraged to search for any other materials that may help improve their detail design ability in reviewing relevant resources.

15. Student learning outcome:

Provides an introduction to the building construction process. Develops skills that enable understanding the methods of construction, building materials and construction system and technique. Beginning with abstract exercises, introduces techniques for project management and developing sustainable materials and green building methods.

16. Course Reading List and References:

Key references:

- Mitchells, Building Envelope ,Peter Burberry.

Ministry of Higher Education and Scientific research

- Mitchells, Building Structure ,Peter Burberry.
- Time saver Standard, Design Data.
- Neufert Architects Data.
- Architectural Graphic Standard.
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17.All Topics:

Lecturer's name

<p>Course programme</p> <p>Week 1: Introduction, course outline, how to practice building construction, building symbols.</p> <p>Week 2: Post and beam systems: definition, adv. &disadv, grid pattern and conditions, column and beam pattern in a grid, proportion of beam depth to span, simply supported and rigid frames.</p> <p>Week 3: Portal frames: definition, adv. &disadv, pattern of arrangements and conditions, dimensioning, proportion of frame to span.</p> <p>Week 4: Trusses: definition, terminology, function, materials, types, adv. &disadv, geometry, conditions, positioning, dimensioning, proportion of rise to span.</p> <p>Week5: Arches; definition, terminology, function, materials, types, adv. &disadv, geometry, conditions, dimensioning, proportion of rise to span.</p> <p>Week 6: Precast concrete floor slab systems, definition, terminology, function, types, adv. &disadv, geometry, conditions, dimensioning, proportion to span.</p> <p>Week 7: Midterm exam.</p> <p>Week 8: Floor slab systems: definition, terminology, function, types, adv. &disadv, geometry, conditions, dimensioning, proportion of depth to span. one and two way, flat plate, flat slab, drop slab .</p> <p>Week 9: Concrete floor slab systems one- and two-way ribbed slab. definition, terminology, function, types, adv. &disadv, geometry, conditions, dimensioning, proportion of depth to span.</p> <p>Week 10: Space structures, definition, terminology, function, types, adv. &disadv, geometry, conditions, dimensioning, proportion to span,shell, membrane and tension structures.</p> <p>Week 11:Stairs; definition, terminology, function, types, materials,adv. &disadv, geometry, conditions, dimensioning, proportion.</p>	<p>Lecturer's name: Teaching Staff</p>
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<p>Week 12: Internal finishing of floors, walls and ceilings: External finishing of walls and floors: definition, terminology, function, types, materials, adv. &disadv, geometry, conditions.</p> <p>Week 13:Set drawings submission and discussion</p> <p>Final exam will be determined by the exam board</p>	
<p>18. Practical Topics (If there is any)</p>	
<p>19. Examinations: All the exams are in form of practice only. 1. Compositional:-----</p>	

<p>2. True or false type of exams:</p> <p>-----</p>
<p>3. Multiple choices:</p> <p>-----</p>
<p>20. Extra notes:</p> <p>-----</p>
<p>21. Peer review</p> <p>This course book has to be reviewed and signed by a peer. The peer approves the contents of your course book by writing few sentences in this section.</p> <p><i>(A peer is person who has enough knowledge about the subject you are teaching, he/she has to be a professor, assistant professor, a lecturer or an expert in the field of your subject).</i></p>

This **syllabus** may be subject to changes, i.e., we may take either longer or shorter time to finish a topic, if any changes happened you will be notified well in advance.