
**Department of Architectural Engineering**

**College of Engineering**

**University of Cihan- Sulaimaniya**

**Subject: Estimation and Specifications**

**Course Book – Year 5**

**Lecturer's name: Diyari Burhan Hussein**

**Academic Year: 2025-2026**

# Course Book

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| **1. Course name** | **Estimation and Specification** |
| **2. Lecturer in charge** | **Diyari Burhan Hussein** |
| **3. Department/ College** | **Architecture/Engineering** |
| **4. Time (in hours) per week** | **Theory: 2**<br>**Practical: 0** |
| **5. Office hours** | **Saturday (8:30 am – 12:30 pm)** |
| **6. Course code** | |
| **7. Teacher's academic profile** | **Earned the bachelor's degree in civil engineering at the University of Sulaimani, Sulaymaniyah/Iraq, and the master's degree in structural engineering at Budapest University of Technology and Economics, Budapest/Hungary, with an individual thesis that was 'Comparative analysis of strengthening methods for RC monolithic columns'.** |
| **8. Keywords** | |

**9. Course overview:**

Introduction to quantity surveying. Methods of measurement and calculations of different items and materials used in a typical building project ( Earthworks, Foundations, masonry units, concrete works, steel reinforcement, slabs, beams, etc.) Preparation of comparative tables of prices and bids and their evaluation. Specification writings. General conditions of contract between architect, client, and contractor. Specifications for materials and various construction works, and execution procedures. Preparation of contract documents for various trades and works for bids.

10. Course objective:

- To learn what is meant by estimation and the difference from measurement. Also, types of estimation.
- To learn how to estimate individual components of buildings, such as, (earthwork, bricks, concrete. Steel works, gypsum, etc.) based on standards.
- To learn how to price and compute the cost of each item of the building.
- To teach students about construction specifications, how to find the

sources of them, how to write them correctly in B.O.Q, and how they receive and check the implementation of project items.
- To teach students to prepare an engineering contract for their projects

**11. Student's obligation**

Students are required to attend class, do their homework, and take the quizzes. They have to study after each class and take two exams during the semester.

**12. Forms of teaching**

The materials are explained mainly by data show and the board is used for the calculations and explanations parts.

**13. Assessment scheme**

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| **Midterm Examination** | **30 %** |
| **Homework, Quiz, Project** | **10 %** |
| **Final theory exam** | **60 %** |

**14. Student learning outcome:**

This subject is one of the most important subjects that must be taken in the fifth stage, because the student will be taught how they can prepare a tender for a project, and how to arrange the B.O.Q. Items according to the engineering standards and specifications.
Also, this subject will help the students to have information about the engineering union and municipality regulations.

**15. Course Reading List and References:**


1. "Estimating in Building Construction" By Frank R. Dagostino (7th edition)
2. "Estimating Building Costs" By: Wayne J. Del Pico
3. "Estimating and Quantity Surveying By: G.Ranjith Kumar
4. Smith, A. J. (2017). Estimating, Tendering, and Bidding for Construction Work. Macmillan International Higher Education.
5. Del Pico, W. J. (2012). Estimating Building Costs for the Residential and Light Commercial Construction Professional (Vol. 80). John Wiley & Sons.
6. Brook, M. (2016). Estimating and tendering for construction work. Taylor & Francis.
7. Popescu, C. M., Phaobunjong, K., & Ovararin, N. (Eds.). (2003). Estimating Building costs. Crc Press.

## 16. The Topics:

| Lecture No | Topic |
|---|---|
| 1 | Introduction to estimation and specification |
| 2 | Types of estimation and the duty of the estimator |
| 3 | Earthwork measurements |
| 4 | Earthwork measurements |
| 5 | Masonry units: Bricks, stone, and concrete blocks |
| 6 | Concrete works |
| 7 | Reinforced concrete beams, slabs, and columns |
| 8 | Reinforced concrete beams, slabs, and columns |
| 9 | Interior and exterior finishing works |
| 10 | Interior and exterior finishing works |
| 11 | Foundation steel works |
| 12 | Costing and prices of building elements |
| 13 | Specifications and preparing the bill of quantities |
| 14 | Review of the course |
| Final Examination | |

## 17. Peer review

**Main Lecturer incharged**
**Mr. Diyari Burhan Hussein**

**Head of the Department**
**Mrs. Tara Azad Rauof**