

## Course Description

### Method of Construction and Estimation

This description provides a brief summary of the most important characteristics of the course and the expected learning outcomes, indicating the maximum benefit from the provided learning methods. Those methods must be linked to the program description.

1. Educational Institution	<b>University of Warith Al-Anbiyaa</b>
2. Department / Center	<b>Civil engineering</b>
3. Course Name/ Level	<b>Method of Construction and Estimation/ 2<sup>nd</sup></b>
4. Lecturer name:	<b>Asst. Lect. Ghadeer Haitham</b>
5. Teaching Methods	<b>Theoretical Classes</b>
6. Year/semester	<b>2023-2024</b>
7. Number of teaching hours	<b>90 hrs. (theoretical)</b>
8. The date the description preparation	<b>2/19/2024</b>
9. Course objectives is to help students to:	
<ul style="list-style-type: none"> <li>a) <b>Understanding of cost and its types.</b></li> <li>b) <b>Illustrating funding requirements.</b></li> <li>c) <b>Understand construction phases and project life cycle.</b></li> <li>d) <b>Learning planning sciences in construction industry.</b></li> <li>e) <b>Familiarize students to basic concepts of construction equipment's productivity.</b></li> <li>f) <b>To understand resource allocation and how pre-plan labor requirements scheduling.</b></li> <li>g) <b>To prepare construction projects' Bill of quantities.</b></li> <li>h) <b>Definition general conditions for works of civil engineering.</b></li> </ul>	

#### 10. Course outcomes and the teaching, learning and assessment methods.

**A. Cognitive goals: the student has to be able to:**

- A1.**
- A2. Understand the different types of fluid flow.**
- A3. Differentiate between the governing equations of flow and their applications.**
- A4. Understand the difference between the statics and dynamics of fluids.**
- A5. Understand the differences of fluid pressure and its measurements,**
- A6. Calculate the forces exerted by fluids in motion.**

## **B. Acquired skills from the course**

- B1. Forecasting the costs; which spans all project phases: Conceptual, Design, Bidding, Building, and Operation.**
- B2. Identify the main types of construction cost estimates: preliminary, detailed, quantity, bid, and control. Each is used for a different purpose at a different time in a project lifecycle.**
- B3. Understanding Technical specifications for construction works.**
- B4. Define list of various terms associated with estimating as; Preliminary estimate, Detailed estimate, Quantity estimate, Bid estimate, Cost estimates.**
- B5. Learn process of allocating the resource requirements to minimize risks, or consistent actions to achieve the goals.**
- B6. Recognize roles of contractor and engineer in construction process.**
- B7. Illustrate the General conditions for works of civil engineering. General conditions for works of civil engineering forms the general idea for construction industry. In this, the nature and class of stakeholders' responsibilities and associates .**
- B8. Stating contracts' types and delivery systems in construction industry.**
- B9. Description the Integrator Standard Guide (ISG) in quantity surveying.**
- B10. Understanding construction equipment's classifications and effecting factors of selecting it.**

## **C. Teaching and Learning methods**

- C1. E-learning**
- C2. Discussion and responding to students' questions.**
- C3. Classical theoretical classes**

## **D. Evaluation Methods**

- D1. Oral examination during daily classes.**
- D2. Joined discussions during lectures.**
- D3. Attendance.**
- D4. Monthly examinations.**
- D5. Mid-year examinations.**
- D6. Final-Year examinations.**

## **E. Disciplinary Objectives: Students have to learn:**

- E1. Punctuality.**
- E2. Paying attention to lecturer during class and noting down given information.**
- E3. To be quiet and respectful during classes and answers the questions scientifically.**
- E4. To understand the importance of the fluid mechanics and the influence of the subject on his future career in the field.**

## **F. General and Qualifying Skills.**

- F1. Enabling students to conduct job interviews and demonstrate the engineer's personality required in At the work site**
- F2. Enabling students to make the right decision as quickly as possible to manage work matters. At the work site**
- F3. Enabling students to pass professional tests organized by local authorities/Regional/international.**
- F4. Enabling students to continue self-development after graduation to keep pace with developments. Show the results in the field of specialization.**

### **Course Structure Theoretical Section**

<b>week</b>	<b>Main Topic</b>	<b>Subtitles</b>	<b>Notes</b>
1	Introduction	1. construction industry 2. role of contractor and engineer	
2-3	Construction equipment	1.classifications and using 2.Factors effecting in selecting of equipment	
4-6	The cost of owning and operating construction equipment		
7-8	Engineering fundamentals		
9-11	Earth work equipment		
12	Soil stabilization and compaction		
13-14	Equipment for production and transportation of concrete		
15	Forms for concrete structures		
16-17	Calculation of construction materials quantity		
18-21	Quantities of construction materials		
22-23	Calculation of the steel reinforcement quantity in concrete		
24-25	Bill of quantities, and calculating of construction works		

## References

1. Prescribed books required (textbook)	Guessing - Medhat Fadil - University of Baghdad
2. Main references	Construction Planning, Equipment , and Methods ( L. Peurifoy) Estimating in Building Construction (J. Peterson and R. Dagostion) Estimating and tendering for construction work (Martin Brook)
3. Web sites and electronic references.	

## Course development plan

- 1- Entering practical applications in the development plan and linking them to the side..