Course Specification
(Bachelor)

Course Title:	Contracts, Specifications and Bills of Quantities
Course Code:	CE 4403
Program:	Bachelor of Science in Civil Engineering
Department:	Civil Engineering Department
College:	College of Engineering and Architecture
Institution:	Umm Al Qura University
Version:	1
Last Revision Date:	31 January 2025

Table of Contents

A. General information about the course: 3

B. Course Learning Outcomes (CLOs), Teaching Strategies and Assessment Methods 4

C. Course Content 5

D. Students Assessment Activities 5

E. Learning Resources and Facilities 6

F. Assessment of Course Quality 6

G. Specification Approval 7

A. General information about the course:

1. Course Identification

1. Credit hours: (3)					
2. Course type					
A.	☐University	☐College	☒ Department	☐Track	☐Others
B.	☒ Required		☐Elective		
3. Level/year at which this course is offered: (10)					
4. Course General Description:					
This course introduces students to the fundamental principles of construction contracts, specifications, and the preparation of bills of quantities. It covers legal aspects of contracts, contract documents, specification writing, types of contracts, and quantity surveying techniques. The course includes practical training in software applications related to bill of quantities and quantity take-off procedures.					
5. Pre-requirements for this course:					
Reinforced Concrete Design 1 (CE 3105)					
6. Co-requisites for this course (if any)**:**					
Non					
7. Course Main Objective(s):					

- Provide an understanding of the role and importance of contracts and specifications in civil engineering projects.
- Develop the ability to prepare and interpret contract documents and specifications.
- Enhance skills in quantity surveying and bill of quantities preparation using industry-standard software.

2. Teaching mode (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	75	100 %
2	E-learning		

No	Mode of Instruction	Contact Hours	Percentage
3	Hybrid • Traditional classroom • E-learning		
4	Distance learning		

3. Contact Hours (based on the academic semester)

No	Activity	Contact Hours
1.	**Lectures**	30
2.	**Laboratory/Studio**	45
3.	**Field**	
4.	**Tutorial**	
5.	**Others (specify)**	
Total		75

B. Course Learning Outcomes (CLOs), Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Code of PLOs aligned with the program	Teaching Strategies	Assessment Methods
1.0	**Knowledge and understanding**			
1.1	Explain the principles of contracts, specifications, and bill of quantities.	K1, K2	Lectures, Case Studies	Written Exams, Quizzes
1.2	Identify different types of contracts and their applications in construction.	K2	Lectures, Practical Demonstrations	Assignments, Reports
2.0	**Skills**			
2.1	Apply knowledge of contract documents and specifications in real-world projects.	S1, S2	Group Projects, Lab Work	Project Reports, Presentations
2.2	Conduct quantity take-offs and prepare bills of quantities using software.	S3	Software Training, Practical Sessions	Case Study Analysis, Reports

Code	Course Learning Outcomes	Code of PLOs aligned with the program	Teaching Strategies	Assessment Methods
3.0	**Values, autonomy, and responsibility**			
3.1	Demonstrate proficiency in using industry-standard software for quantity surveying.	V1, V2	Interactive Software Training	Participation, Reports

C. Course Content

No	List of Topics	Contact Hours
1.	Introduction to Construction Contracts	5
2.	Legal Aspects of Construction Contracts	5
3	Contract Formation and Elements	5
4	Types of Construction Contracts	5
5	Standard Contract Forms (FIDIC, CCDC)	5
6	Contract Administration and Dispute Resolution	5
7	Construction Specifications: Purpose and Types	5
8	Writing and Interpreting Specifications	5
9	Principles of Measurement and Quantity Surveying	5
10	Bill of Quantities Preparation	5
11	Software-Based Quantity Take-Off Techniques	5
12	Practical Training in Quantity Surveying Software	5
13	Practical Training in Quantity Surveying Software	5
14	Case Studies in Construction Contracts and Specifications	5
15	Final Project and Presentations (2)	5
Total		**75**

D. Students Assessment Activities

No	Assessment Activities *	Assessment timing (in week no)	Percentage of Total Assessment Score
1.	Homworks	Weekly	15%
2.	Group Project	Week 10	15%
3.	Written Exam	Week 8	20%
4.	Practical Software Training Assessment	Week 12	10%
5.	Final Exam	Week 16	40%

*Assessment Activities (i.e., Written test, oral test, oral presentation, group project, essay, etc.).

E. Learning Resources and Facilities

1. References and Learning Resources

Essential References	▪ Surahyo, A. (2018). Understanding Construction Contracts: Canadian and International Conventions. Springer.
Supportive References	▪ Kalin, M., Weygant, R. S., Rosen, H. J., & Regener, J. R. (2010). Construction specifications writing: Principles and procedures. John Wiley & Sons.
Electronic Materials	Online resources, construction estimation software tutorials.
Other Learning Materials	Instructor-prepared notes, research papers.

2. Required Facilities and equipment

Items	Resources
facilities (Classrooms, laboratories, exhibition rooms, simulation rooms, etc.)	Equipped with multimedia and projection systems. Computer lab with industry-standard software for quantity surveying.
Technology equipment (projector, smart board, software)	Computers with software, smart boards.
Other equipment (depending on the nature of the specialty)	Non

F. Assessment of Course Quality

Assessment Areas/Issues	Assessor	Assessment Methods
Effectiveness of teaching	Faculty, Students	Surveys, Peer Review
Effectiveness of Students assessment	Faculty	Exam Reviews, Rubric Analysis
Quality of learning resources	Faculty, Students	Feedback Forms, Resource Evaluation
The extent to which CLOs have been achieved	Program Leaders	Performance Reports
Other		

Assessors (Students, Faculty, Program Leaders, Peer Reviewers, Others (specify)

Assessment Methods (Direct, Indirect)

G. Specification Approval

COUNCIL /COMMITTEE	CIVIL ENGINEERING COUNCIL
REFERENCE NO.	THE FIFTEENTH SESSION OF THE ACADEMIC YEAR 1446
DATE	30 APRIL 2025

