Course Specification
(Bachelor)

Course Title:	Health and safety in construction projects
Course Code:	COE4406
Program:	Bachelor of Construction Engineering
Department:	Civil and Environmental Engineering Department
College:	College of Engineering and Computing in Al-Qunfudhah
Institution:	Umm Al-Qura University
Version:	4th
Last Revision Date:	15th January 2025

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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: (Level 10/year 5)					
4. Course General Description:					
This course provides an in-depth understanding of health and safety principles within the context of construction management. It aims to equip students with the knowledge and skills necessary to implement effective safety management systems on construction sites. Emphasizing regulatory compliance, risk assessment, and the creation of a safety culture, the course combines theoretical foundations with practical applications relevant to construction engineering. Students will explore various aspects of safety management, including hazard identification, accident prevention, and legal responsibilities, to ensure the well-being of all personnel and successful project completion.					
5. Pre-requirements for this course (if any)**:**					
Construction Planning, Scheduling and Control (COE4405)					
6. Co-requisites for this course (if any)**:**					
7. Course Main Objective(s):					
1. To understand the fundamental principles of health and safety management in construction. 2. To identify and analyze potential hazards and risks in construction activities. 3. To learn how to implement effective safety controls and measures. 4. To develop the ability to create and sustain a safety culture within construction organizations. 5. To familiarize students with legal and regulatory requirements pertinent to construction safety.					

6. To enhance problem-solving skills related to health and safety challenges.
7. To explore contemporary health and safety practices and technologies in construction.
8. To prepare students to perform safety audits and develop improvement strategies.
9. To instill an ethical responsibility for safety in future construction projects.

2. Teaching mode (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	**3 credit hours**	**100%**
2	E-learning		
3	Hybrid • Traditional classroom • E-learning		
4	Distance learning		

3. Contact Hours (based on the academic semester)

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

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	**Recall, define, and describe construction engineering**	**K1**	**Interactive learning Self-directed learning**	**Midterm Exam, Final Exam, Homework, and Quizes**

	concepts, principles, theories, and procedures.			
1.2				
2.0	**Skills**			
2.1				
2.2				
...				
3.0	**Values, autonomy, and responsibility**			
3.1	Utilize critical thinking skills to analyze complex construction engineering issues and develop innovative, context-appropriate solutions that address current challenges in the field.	V2	Interactive learning Self-directed learning	Midterm Exam, Final Exam, Homework, and Quizes
3.2				
…				

C. Course Content

No	List of Topics	Contact Hours
1.	Introduction to Construction Safety Management	3
2.	Legal Framework and Regulatory Compliance	6
3.	Hazard Identification and Risk Assessment	3
4.	Safety Planning and Management Systems	3
5.	Construction Site Safety Practices	3
6.	Mid Term Exam	3
7.	Accident Causation and Prevention	6
8.	Safety Culture and Leadership	6
9.	Emergency Preparedness and Response	6
10.	Innovative Safety Technologies and Trends	6
Total		**45**

D. Students Assessment Activities

No	Assessment Activities *	Assessment timing (in week no)	Percentage of Total Assessment Score
1.	Quizzes	4, 6, 12	15%
2.	Homework	3, 9, 13	15%
3.	Midterm Exam	8	30%
4.	Final Exam	16 or 17	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	Goetsch, D.L., 2022. *Construction Safety and Health*. 8th ed. Boston: Pearson.
Supportive References	Coble, R.J., Gambatese, J.R. and Glavinich, T.M., 2021. *Construction Health and Safety Management*. 2nd ed. Hoboken: Wiley.
Electronic Materials	
Other Learning Materials	

2. Required Facilities and equipment

Items	Resources
facilities (Classrooms, laboratories, exhibition rooms, simulation rooms, etc.)	Classroom with minimum capacity of 30 students
Technology equipment (projector, smart board, software)	Projector, whiteboard
Other equipment (depending on the nature of the specialty)	

F. Assessment of Course Quality

Assessment Areas/Issues	Assessor	Assessment Methods
Effectiveness of teaching	Lecturer / Students	Direct / Indirect (Grades, surveys)
Effectiveness of Students assessment	Faculty	Indirect (Barriers to understand successor course)

Assessment Areas/Issues	Assessor	Assessment Methods
Quality of learning resources	Lecturer	Direct (Grades)
The extent to which CLOs have been achieved	Lecturer / Faculty	Direct (Grades)
Other		

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

Assessment Methods (Direct, Indirect)

G. Specification Approval

COUNCIL /COMMITTEE	Civil and Environmental Engineering Department Council in Al-Qunfudah
REFERENCE NO.	The fifteenth session of the academic year 1446
DATE	01/05/2025