Course Specification

(Bachelor)

Course Title:	Professional Ethics and Engineering Standard
Course Code:	CE 3004
Program:	Civil Engineering
Department:	Civil Engineering Department
College:	Faculty of Engineering & Architecture
Institution:	Umm Al Qura University
Version:	1
Last Revision Date:	31 January 2025

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A. General information about the course:

1. Course Identification

1. Credit hours: (2)					
2. Course type					
A.	☐ University	☐ College	☒ Department	☐ Track	☐ Others
B.	☒ Required		☐ Elective		
3. Level/year at which this course is offered: (7)					
4. Course General Description:					
The course scopes on understanding the engineering standards and the ethical issues to develop an ability of making ethical decisions. Ethical Issues in engineering practice including risk, safety, and accidents. Contemporary Issues and Guidelines in Civil Engineering Profession involving safety, liability, legal obligations, copyright, plagiarism, conflict of interest and whistleblowing. Also it scopes on ethical cases and techniques of solving ethical problems in civil engineering practice; environmental, structural positive and negative cases, and multi-disciplinary team case					
5. Pre-requirements for this course:					
Sustainable Engineering Design (CE 3503)					
6. Co-requisites for this course:					
NA					
7. Course Main Objective(s):					
The main objectives of the course are: 1. Learn how to make ethical decisions. 2. Understand responsibilities, professionalism, and theories of ethics. 3. Understand the engineering standards. 4. Ability to apply tools such as techniques, theory of ethics, and the code of ethics to analyze and assess ethical cases. 5. Understanding the ethical issues in engineering practice including risk, safety, liability, legal obligations, copyright, plagiarism and others.					

2. Teaching mode (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	30	100%
2	E-learning		
3	Hybrid • Traditional classroom		

No	Mode of Instruction	Contact Hours	Percentage
	• E-learning		
4	Distance learning		

3. Contact Hours (based on the academic semester)

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

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	Demonstrate the fundamental Knowledge of the role and responsibilities and the essential knowledge to make correct ethical decisions and responsibility of the knowledge of the code of ethics in civil engineering	**K1**	Lectures Discussion	Assignments Final Exam
1.2	Illustrate the importance of contemporary issues of the ethical engineering practice including risk, safety, liability, legal obligations,	**K2**	Lectures Discussion	Assignments Final Exam

Code	Course Learning Outcomes	Code of PLOs aligned with the program	Teaching Strategies	Assessment Methods
	copyright, plagiarism and others.			
...				
2.0	**Skills**			
2.1	Gain the skills to apply standards and the code of ethics to the engineering project and apply the skills of identify and deal ethically with contemporary issues.	**S2**	Lectures Discussion	Assignments Final Exam
2.2	Gain the skills to identify, analyze and present ethical cases by applying appropriate techniques.	**S3**	Lectures Discussion	Assignments Final Exam
...				
3.0	**Values, autonomy, and responsibility**			
3.1	Use the fundamental engineering ethics to apply the responsibility in engineering project	**V1**	Teamwork project	Teamwork project report
3.2	Use engineering ethics to make decision in engineering project using the codes of ethics in the application and evaluating engineering ethics throw team work project.	**V2**	Teamwork project	Teamwork project report
...				

C. Course Content

No	List of Topics	Contact Hours
1.	Introduction to professional ethics, definitions, why and how to study?	2
2.	Engineering ethics, professional and personal ethics.	2
3.	The origin of ethics, theories of ethics, society's ethics, and ethics in Islam	2
4.	The scope of engineering ethics, rules, rights, and responsibilities of	2

	Engineers	
5.	Making ethical decision in engineering practice.	2
6.	Engineering Code of Ethics	2
7.	Ethical Issues in Engineering Practice including Risk, Safety and Accidents.	2
8.	Contemporary ethical Issues and Guidelines in Civil Engineering Profession, Involving safety, liability, legal obligations, copyright, and plagiarism, conflict of interest, and whistleblowing.	2
9.	Work ethically in multi-disciplinary scope of Engineering team	2
10.	Examples of Work ethically in multi-disciplinary and scope of Engineering team	2
11.	Using tools to analyze and resolve ethical cases.	2
12.	Engineering standards	2
13.	Risk assessment analysis	2
14.	Safety Preacauations	2
15.	Training project	2
Total		**30**

D. Students Assessment Activities

No	Assessment Activities *	Assessment timing (in week no)	Percentage of Total Assessment Score
1.	Assignments	2, 4, 6, 10, 12	10%
2.	Mid Term Exam	8	30%
3.	Project report	15	10%
4.	Final Exam	16	50%

*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	Engineering Ethics, by Charles. B. Fleddermann (Fourth edition 2012) Prentice Hall
Supportive References	Roland Schinzinger and Mike W. Martin, Introduction to Engineering ethics, McGraw-Hill New York 2000
Electronic Materials	- The Journal of Ethics - Business and Professional Ethics Journal
Other Learning Materials	

2. Required Facilities and equipment

Items	Resources
facilities (Classrooms, laboratories, exhibition rooms, simulation rooms, etc.)	NA
Technology equipment (projector, smart board, software)	• Printers • Engineering Software
Other equipment (depending on the nature of the specialty)	International journal membership

F. Assessment of Course Quality

Assessment Areas/Issues	Assessor	Assessment Methods
Effectiveness of teaching	Faculty members who teach this course	• Students questioners running at the semester end. • Analysis of students` marks Regular feedback of the students about the course and the teaching methods
Effectiveness of Students assessment	Faculty members who teach this course.	Regular revising and improving of the course contents.
Quality of learning resources	**Program Leaders**	Frequent improvement for teaching and learning techniques.
The extent to which CLOs have been achieved	Independent member(s) teaching staff	A sample of students' answer sheets is revised by a specified committee of the department
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**