Course Specification

— (Bachelor)

Course Title: **Engineering Ethics, Practice and Professionalism**

Course Code: CEN1411

Program: Bachelor in Computer Engineering

Department: Computer Engineering

College: Faculty of Computers and Information Technology

Institution: University of Tabuk

Version: 1.0

Last Revision Date: 27 July 2022

Table of Contents

A. General information about the course:

1. Course Identification

1. Credit hours: (1)

2. Course type

A.	□University	□College	☒ Department	□Track	□Others
B.	☒ Required			□Elective	

3. Level/year at which this course is offered: (10/5)

4. Course general Description:

This course will provide ethics training to graduate students through an orientation to the topics in engineering ethics in order to prepare students to become familiar with discussions and methods for developing ethical approaches to engineering research and applied projects. It includes: Introduction to engineering ethics; definition of a profession, personal and professional ethics, explore many of the ethical issues, discussion of ethical theories, code of ethics, problem solving techniques. Introduce engineer's rights and responsibilities. Asses Safety, risk and accidents. Explain the Rights and Responsibilities of Engineers.

5. Pre-requirements for this course (if any):

130 Credit Hours

6. Co-requisites for this course (if any):

N/A

7. Course Main Objective(s):

1. To read and think critically.
2. To develop moral reasoning skills.
3. To improve writing skills in an engineering context.
4. To understand multiple perspectives and to respect others of diverse persuasions.
5. To study the fundamental structure of human personhood, the grounding of moral action.
6. The development of moral character as the precondition of true citizenship and of integral work in a profession.

2. Teaching mode (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	15	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	15
2.	Laboratory/Studio	
3.	Field	
4.	Tutorial	
5.	Others (specify)	
Total		15

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

Code	Course Learning Outcomes	Code of PLOs aligned with program	Teaching Strategies	Assessment Methods
1.0	**Knowledge and understanding**			
1.1	**Define moral reasoning skills.**	**K1, K4**	**Lectures, Brainstorming**	**Class Works, Assignments, Exams.**
1.2	**State the fundamental structure of human personhood, the grounding of moral action.**	**K4**	**Lectures, Brainstorming**	**Class Works, Assignments, Exams.**
1.3	**Recognize moral character as the**	**K1, K4**	**Lectures, Brainstorming**	**Class Works,**

Code	Course Learning Outcomes	Code of PLOs aligned with program	Teaching Strategies	Assessment Methods
	precondition of true citizenship and of integral work in a profession.			Assignments, Exams.
2.0	**Skills**			
2.1	N/A			
3.0	**Values, autonomy, and responsibility**			
3.1	Acquire and demonstrate the professional and ethical issues in the Computer Engineering field.	V1,V2	Lectures, Brainstorming	Class Works, Assignments, Exams.

C. Course Content

No	List of Topics	Contact Hours
1.	**Why Professional Ethics**	1
2.	**Responsibility in Engineering (part 1)**	1
3.	**Responsibility in Engineering (part 2)**	1
4.	**Framing the Problem**	1
5.	**Resolving Problems (part 1)**	1
6.	**Resolving Problems (part 2)**	1
7.	**The Social and Value Dimensions of Technology**	1
8.	**Trust and Reliability**	1
9.	**Safety, Risk, and Liability in Engineering (part 1)**	1
10.	**Safety, Risk, and Liability in Engineering (part 2)**	1
11.	**Engineers in Organizations (part 1)**	1
12.	**Engineers in Organizations (part 2)**	1
13.	**Engineers and the Environment**	1
14.	**International Engineering Professionalism (part 1)**	1
15.	**International Engineering Professionalism (part 2)**	1
	Total	**15**

D. Students Assessment Activities

No	Assessment Activities *	Assessment timing (in week no)	Percentage of Total Assessment Score
1.	Class works , Assignments	2,15	20%
2.	First Midterm Exams.	6,7	20%
3.	Second Midterm Exams.	11,12	20%
4.	Final Exam	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	Charles E. Harris, Michael S. Pritchard, and Michael J. Rabins, Engineering Ethics: Concepts and Cases, Cengage Learning 6th ed. 2018, ISBN-10: 1337554502, ISBN-13: 978-1337554503. G. Johnson, "Computer Ethics," Pearson, 4/E, 2009. ISBN-10: 131112414, ISBN-13: 978-0131112414.
Supportive References	TBA
Electronic Materials	Faculty member's sites
Other Learning Materials	N/A

2. Required Facilities and equipment

Items	Resources
facilities (Classrooms, laboratories, exhibition rooms, simulation rooms, etc.)	**Classroom**
Technology equipment (projector, smart board, software)	**White board, Data show projector**
Other equipment (depending on the nature of the specialty)	**TBA**

F. Assessment of Course Quality

Assessment Areas/Issues	Assessor	Assessment Methods
Effectiveness of Teaching	Faculty, Program Leaders, and Advisory Board	Both Direct and Indirect

Assessment Areas/Issues	Assessor	Assessment Methods
	Students	Indirect
Effectiveness of Students Assessment	Faculty, Program Leaders, Advisory Board, and Independent Opinion	Both Direct and Indirect
Quality of Learning Resources	Faculty, Students, and Advisory Board	Indirect
The Extent to which CLOs have been Achieved	Faculty, Program Leaders, Advisory Board, and Independent Opinion	Direct (as in section B) and Indirect/Surveys
	Students	Indirect
Other	-	-

Assessors (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify)
Assessment Methods (Direct, Indirect)

G. Specification Approval

COUNCIL /COMMITTEE	
REFERENCE NO.	
DATE	