EASTERN MEDITERRANEAN UNIVERSITY
Department of Industrial Engineering
IENG355 Ethics in Engineering
COURSE OUTLINE

COURSE CODE	IENG355	**COURSE LEVEL**	*Third or Fourth year*	
COURSE TITLE	Ethics in Engineering	**COURSE TYPE**	*Department Core/Restricted Elective*	
CREDIT VALUE	(3, 0) 3	**ECTS VALUE**	4	
PREREQUISITES	-	**COREQUISITES**	-	
DURATION OF COURSE	One semester	**Semester and year**	**Spring**	**2025-2026**

WEB LINK	www.staff.emu.edu.tr (go to lecturers web site)			
	Name (group)	**e-mail**	**Office**	**Telephone**
Instructors	Mahmut Kunter (Gr. 01)	mahmut.kunter@emu.edu.tr	IE-B211	2806
	Cemil Tuğcan (Gr. 02)	cemil.tugcan@emu.edu.tr	IE-C104	3161

CATALOGUE DESCRIPTION

This course is designed to introduce moral rights and responsibilities of engineers in relation to society, employers, colleagues and clients. Analysis of ethical and value conflict in modern engineering practice. Importance of intellectual property rights and conflicting interests. Ethical aspects in engineering design, manufacturing and operations. Cost benefit-risk analysis, safety and occupational hazard considerations.

COURSE OBJECTIVES

1. Fundamental concepts of engineering ethics (Contributing Student Outcomes 2, 4, 5)
2. Engineering code of ethics (NSPE) (Contributing Student Outcomes 2, 4 5, 7)
3. Blame, role and obligation responsibilities (Contributing Student Outcomes 2, 4, 5)
4. Impediments to responsible action (Contributing Student Outcomes 2, 4, 5)
5. Utilitarian thinking and respect for person approaches (Contributing Student Outcomes 2, 4, 5)
6. Research involving Humans (Contributing Student Outcomes 2, 4, 5)
7. Convergence, divergence and creative middle way (Contributing Student Outcomes 2, 4, 5)
8. Forms of dishonesty (Contributing Student Outcomes 2, 4, 5)
9. Confidentiality, intellectual property, conflict of interests (Contributing Student Outcomes 2, 4, 5)
10. Free and informed consent (Contributing Student Outcomes 2, 4, 5)
11. Risk and liability of engineering (Contributing Student Outcomes 2, 4, 5, 7)
12. Normalization of deviance (Contributing Student Outcomes 2, 4, 5)
13. Ethics of employer and employee relations (Contributing Student Outcomes 2, 4)
14. Professional manager and professional engineering decisions (Contributing Student Outcomes 2, 4, 5)
15. Whistleblowing and organizational loyalty (Contributing Student Outcomes 2, 4, 5)
16. Professional engineering obligations to the environment (Contributing Student Outcomes 2, 4, 5, 7)
17. Cultural and legal issues in international professionalism (Contributing Student Outcomes 2, 4, 5)
18. Exploitation, paternalism and human rights (Contributing Student Outcomes 2, 4, 5, 7)
19. The golden rule (Contributing Student Outcomes 2, 4, 5)

COURSE LEARNING OUTCOMES

On successful completion of this course, all students will have developed **knowledge** and **understanding** of:

- Fundamental concepts of engineering ethics,
- Engineering code of ethics,
- The use of techniques to analyse cases,
- The importance of international professionalism.

On successful completion of this course, all students will have developed **their skills in**:

- Recognizing and defining ethical problems,
- Using different techniques for case analysis,
- Applying the suitable technique when analysing an ethical situation,
- Making use of the code of ethics during case analysis,
- Making ethically optimal decisions.

On successful completion of this course, all students will have developed their **appreciation** of, and respect for **values and attitudes** to:

- The role of ethics in the engineering profession,
- Responsible professional conduct

LEARNING TEACHING METHODS

Teaching will be based on active class participation. Students are expected to read the assigned cases and the material covered in the previous lecture before coming to class. The lecturer will summarize and explain the main concepts and techniques used for moral problem solving. Previously assigned cases will be presented and discussed by the students in class.

METHOD OF ASSESSMENT

All Examinations will be closed book/closed notes type, based on lectures, discussions, and assigned readings or other work. To pass these exams students will need to have studied the material well in advance in order to understand the concepts, procedures and techniques. Exam results will be announced on the course student portal as soon as the exam papers have been evaluated. To enter a formal examination, a student has to present her/his EMU student identification card to the invigilator.

Quizzes: There will be **two** previously announced quizzes held during the semester; additionally some pop-quizzes can be given therefore students are expected to attend class regularly and be up to date in their reading and other work. There will be **no quiz make-ups**.
Midterm Exam: The midterm exam will be held in the week designated by the university exam coordinator. Midterm exams include all of the material covered up to the date of examination.

Final Exam: The final exam will cover the whole course material including discussions and assignments.

Any objection to the grade or mark should be made latest within a week following its announcement.

Grading Policy*:

Quizzes	20% (10% each)
Midterm Exam 1	35%
Final Exam	45%

*Note that the instructors reserve the right to modify these percentages in case they find it necessary. Letter grade equivalents of numerical performances will be announced by the Registrar's Office after the last day for the submission of letter grades.

ATTENDANCE

Attendance will be taken every lecture hour. Note that university regulations allow the instructor to give a grade of **NG** to a student whose **absenteeism is more than 25%** of the total lecture hours or who do not complete sufficient work. Students who do not attend the Midterm and/or Final exams without a valid excuse will get **NG**.

TEXTBOOK/S

Charles E. Harris, Jr., Michael S. Pritchard, Michael J. Rabins, Ray James, Elaine Englehardt, *Engineering Ethics: Concepts and Cases*, 6th edition, Cengage Learning, 2018, ISBN: 9781337554503

Supplementary Reading
Vesilind, P. A., & Gunn, A. S., *Hold paramount: the engineer's responsibility to society*. 3rd edition, Cengage Learning, 2016, ISBN: 9781285869667

COURSE CONTENT AND SCHEDULE

	Lecture Hall	Time
Wednesday	IE-E201	14:30-17:20
Friday	IE-E201	08:30-11:20
Office Hour	Tuesday 15:30-16:20.	

Week	Topics
1	General Introduction, Engineering Ethics: Making a Difference
2	Responsibility in Engineering
3	Framing the Problem
4	Organizing Principles
5	Review and Case Analysis
6	Safety, Risk and Liability in Engineering
7	Review and Case Analysis
8	MIDTERM Exams Week
9	Engineers as Employees
10	Review and Case Analysis
11	Engineers and the Environment
12	Review and Case Analysis
13	International Engineering Professionalism
14	Genereal Review and Case Analysis
15-16	Final Exams Week

CONTRIBUTION OF THE COURSE TO MEETING THE REQUIREMENTS OF CRITERION 5

Mathematics & Basic Sciences : 0
Engineering Science : 0
General Education : 3

Contribution of Course to Student Outcomes

Student Outcomes	Level of Contribution		
	No	Moderate	High
(1) an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics	☑	☐	☐
(2) an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors	☐	☐	☑
(3) an ability to communicate effectively with a range of audiences	☑	☐	☐
(4) an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts	☐	☐	☑
(5) an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives	☐	☑	☐
(6) an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions	☑	☐	☐
(7) an ability to acquire and apply new knowledge as needed, using appropriate learning strategies	☐	☑	☐

ACADEMIC HONESTY - PLAGIARISM

Cheating is copying from others or providing information, written or oral, to others. Plagiarism is copying without acknowledgement from other people's work. According to university by laws cheating and plagiarism are serious offences punishable with disciplinary action ranging from simple failure from the exam or project, to more serious action (letter of official warning suspension from the university for up to one semester). Disciplinary action is written in student records and may appear in student transcripts.

PLEASE KEEP THIS COURSE SYLLABUS FOR FUTURE REFERENCE AS IT CONTAINS IMPORTANT INFORMATION