

Course Title:	<i>Engineering Ethics.</i>
Course Code:	HSS-422
Credit Hours Theory:	3
Credit Hours Lab (If Applicable):	0
Instructor Name with Qualification:	Engr. Sadaf Khalid. MS Computer Software Engineering. (Double Gold Medalist)
Course Objectives:	This course will develop students' knowledge of professional and ethical responsibilities of engineers. The students will also be able to identify and deal with the morally complex situations integrated in their professional lives after the successful completion of course.
Course Learning Outcomes:	After the successful completion of course, students will be able to: <ol style="list-style-type: none"> 1. Understand and apply the engineering code of ethics. 2. Differentiate between the personal, legally required and professional ethics based on engineers' responsibility to protect public health, safety and welfare, whether working individually or in the form of teams. 3. Analyze and relate the morally complex cases to the practical situations in order to choose between right and wrong. 4. Apply the concepts of codes of ethics and other guidelines to identify and solve the morally complex situations at workplace. 5. Apply their engineering knowledge to sustainable development projects keeping in view the public and environmental safety.
Contents (Catalog Description):	Ethics and Professionalism. Moral Reasoning and Code of Ethics. Responsibility in Engineering. Moral Frameworks. Engineering as Social Experimentation. Commitment to Safety. Risk and Liability in Engineering. Workplace responsibilities and rights. Trust and Reliability. Honesty. Research Integrity. Computer Ethics and Internet. Environmental Ethics. Engineers and Technological progress.
Recommended Text Books:	1. Mike W. Martin and Roland Schinzinger, "Ethics in Engineering", 4 th Edition, McGraw Hill. 2. Harris Jr. C.E., Pritchard M.S. and M. J. Rabins, "Engineering Ethics: Concepts and Cases", 4 th Edition, Wadsworth Publishing.

Reference Books:	1. Whitbeck C, "Ethics in Engineering Practice and Research", Cambridge University Press.
Helping Web Sites:	-
General Instructions for students:	<ul style="list-style-type: none"> • Be respectful and responsible. • Follow directions given in class. • Always be on time in the class. • Late attendance: NO more than FIVE MINUTES after regular class timings. • Make sure timely submission of assignments. Late assignments will NOT be acceptable. • Copied assignments will be given ZERO credit. • NO retake of quizzes will be practiced.
Sixteen Week Lesson Plan	<p>Week # 1 What is Engineering Ethics? Engineering and Professionalism. Types of Ethics or Morality. Preventive Vs Aspirational Ethics. Themes Constituting the Normative Perspective of Engineering Ethics.</p> <p>Week # 2 Accepting and sharing Responsibilities among engineers. Blame-Responsibility and Causation. Liability. The problem of Many Hands.</p> <p>Week # 3 Impediments to responsible action. Steps involved in resolving ethical dilemmas. Code of Ethics. Abuses of codes. The Standard of Care.</p> <p>Week # 4 Introducing Moral Frameworks. Utilitarianism and its Types. Rights Ethics. Duty Ethics.</p> <p>Week # 5 Virtue ethics. Self-Realization and Self-Interest.</p>

	Ethics and Design.
Week # 6	Line Drawing. Convergence, Divergence and Creative Middle Ways.
Week # 7	Concept of Safety and Risk. Acceptability of Risk. Engineers' approach to Risk. Public's approach to Risk. Free and Informed Consent. Government's approach to Risk.
Week # 8	A Categorization of Ethical Dilemmas in Software Engineering. Revision.
Week # 9	<u>MIDTERM EXAMINATIONS</u>
Week # 10	Ethical climate and Teamwork. Confidentiality and Conflicts of Interest.
Week # 11	Engineers and managers. Being morally responsible in organization without getting hurt. PEDs and PMDs. Rights of Engineers. Whistleblowing.
Week # 12	Truthfulness and Trustworthiness. Academic Integrity. Research Integrity.
Week # 13	Honesty Forms of Dishonesty. Dishonesty on Campus.
Week # 14	What is meant by Environmental Ethics? The Invisible Hand and the Tragedy of the Commons. Ethical Frameworks regarding environmental ethics.

	<p>Week # 15 Global Issues. Technological Optimism and Pessimism. Computer Ethics and the Internet.</p> <p>Week # 16 Engineering as Social Experimentation.</p> <p>Week # 17 Project Presentations/ Vivas.</p> <p>Week # 18 <u>FINAL EXAMINATIONS</u></p>
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Course Learning Outcomes mapping to Program Learning Objectives:

CONTRIBUTION OF COURSE LEARNING OUTCOMES TO PROGRAMME LEARNING OUTCOMES						
SOFTWARE ENGINEERING		ENGINEERING ETHICS				
No.	Program Outcomes	Course Learning Outcomes				
		1	2	3	4	5
1	Engineering Knowledge					
2	Problem analysis					
3	Design/Development of solutions		√			
4	Investigation					
5	Modern tool usage					
6	Engineer and society			√	√	
7	Environment and sustainability					√
8	Ethics	√	√			
9	Individual and Team work		√		√	
10	Communication					
11	Project Management					
12	Lifelong learning					