

PROFESSIONAL ETHICS & HUMAN VALUES

Preamble: This course is a mandatory course introduced to impart the Ethics and Human Values to the students in engineering education.

Course Objectives:

- To create an awareness on Engineering Ethics and Human Values.
- To instill Moral and Social Values and Loyalty
- To appreciate the rights of others
- To create awareness on assessment of safety and risk

UNIT -I Human Values: Morals, Values and Ethics-Integrity-Work Ethic-Service learning – Civic Virtue – Respect for others –Living Peacefully –Caring –Sharing –Honesty -Courage- Cooperation– Commitment – Empathy –Self Confidence Character –Spirituality. Learning outcomes: 1. Learn about morals, values & work ethics. 2. Learn to respect others and develop civic virtue. 3. Develop commitment 4. Learn how to live peacefully

UNIT -II Engineering Ethics: Senses of 'Engineering Ethics-Variety of moral issued – Types of inquiry –Moral dilemmas – Moral autonomy –Kohlberg's theory-Gilligan's Theory- Consensus and controversy –Models of professional roles-Theories about right action-Self-interest -Customs and religion –Uses of Ethical theories –Valuing time –Cooperation – Commitment. Learning outcomes: 1. Learn about the ethical responsibilities of the engineers. 2. Create awareness about the customs and religions. 3. Learn time management 4. Learn about the different professional roles.

UNIT -III Engineering as Social Experimentation: Engineering As Social Experimentation –Framing the problem –Determining the facts – Codes of Ethics –Clarifying Concepts –Application issues –Common Ground -General Principles –Utilitarian thinking respect for persons. Learning outcomes: 1. Demonstrate knowledge to become a social experimenter. 2. Provide depth knowledge on framing of the problem and determining the facts. 3. Provide depth knowledge on codes of ethics. 4. Develop utilitarian thinking

UNIT -IV Engineers Responsibility for Safety and Risk: Safety and risk –Assessment of safety and risk –Risk benefit analysis and reducing riskSafety and the Engineer-Designing for the safety-Intellectual Property rights (IPR). Learning outcomes: 1. Create awareness about safety, risk & risk benefit analysis. 2. Engineer's design practices for providing safety. 3. Provide knowledge on intellectual property rights.

UNIT- V Global Issues: Globalization –Cross-culture issues-Environmental Ethics – Computer Ethics –Computers as the instrument of Unethical behavior –Computers as the object of Unethical acts – Autonomous Computers-Computer codes of Ethics –Weapons Development -Ethics and Research –Analyzing Ethical Problems in research.



Learning outcomes:

1. Develop knowledge about global issues.
2. Create awareness on computer and environmental ethics
3. Analyze ethical problems in research.
4. Give a picture on weapons development.

Course outcomes:

Students will be able to: • Identify and analyze an ethical issue in the subject matter under investigation or in a relevant field

- Identify the multiple ethical interests at stake in a real-world situation or practice
- Articulate what makes a particular course of action ethically defensible
- Assess their own ethical values and the social context of problems
- Identify ethical concerns in research and intellectual contexts, including academic integrity, use and citation of sources, the objective presentation of data, and the treatment of human subjects
- Demonstrate knowledge of ethical values in non-classroom activities, such as service learning, internships, and field work
- Integrate, synthesize, and apply knowledge of ethical dilemmas and resolutions in academic settings, including focused and interdisciplinary research.

Text Books:

- 1) "Engineering Ethics includes Human Values" by M.Govindarajan, S.Natarajan and, V.S.Senthil Kumar-PHI Learning Pvt. Ltd-2009
- 2) "Engineering Ethics" by Harris, Pritchard and Rabins, CENGAGE Learning, India Edition, 2009.
- 3) "Ethics in Engineering" by Mike W. Martin and Roland Schinzinger –Tata McGrawHill–2003.
- 4) "Professional Ethics and Morals" by Prof.A.R.Aryasri, DharanikotaSuyodhana-Maruthi Publications.
- 5) "Professional Ethics and Human Values" by A.Alavudcen, R.KalilRahman and M. Jayakumaran, Laxmi Publications. 6) "Professional Ethics and Human Values" by Prof.D.R.Kiran-"Indian Culture, Values and Professional Ethics" by PSR Murthy-BS Publication



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