

HM 402 PROFESSIONAL ETHICS AND HUMAN VALUES

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- Course Objectives:**
- Identify the core values that shape the ethical behavior of an engineer
 - To create an awareness on professional ethics and Human Values
 - To appreciate the rights of others

Prerequisites: Nil

Morals, Values and Ethics - Integrity - work Ethic - Service Learning - Civic Virtue - Respect for others - Living peacefully - Caring - Sharing - Honesty - Courage - Valuing time - Co-operation - Commitment - Empathy - Self-Confidence - Character - Spirituality - The role of engineers in modern society - social expectations.

Sense of 'Engineering Ethics' - Variety of moral issues - types of inquiry - moral dilemmas - moral autonomy - Kohlberg's theory - Gilligan's theory - Consensus and controversy - Models of Professional Roles & Professionalism - theories about right action - Self-interest - customs and religion - uses of ethical theories.

Engineering as experimentation - engineers as responsible experimenters - Research ethics - Codes of ethics - Industrial Standard - Balanced outlook on law - the challenger case study.

Safety and risk - assessment of safety and risk - Risk - Risk benefit analysis and reducing risk - Govt. Regulator's approach to risks - the three mile island and Chernobyl case studies & Bhopal - Threat of Nuclear power, depletion of ozone, greenery effects - Collegiality and loyalty - respect for authority - collective bargaining - Confidentiality - conflicts of interest - occupation crime - professional rights - employees' rights - Intellectual Property rights (IPR) - discrimination.

Multinational corporations - Business ethics - Environmental ethics - computer ethics - Role in Technological Development - Weapons development engineers as managers - consulting engineers - engineers as expert witnesses and advisors - Honesty - leadership - sample code of conduct ethics like ASME, ASCE, IEEE, Institution of Engineers (India), Indian Institute of Materials Management Institution of electronics and telecommunication engineers (IETE), India, etc.,.

Text Books:

1. *Mika Martin and Roland Scinger, 'Ethics in Engineering', Pearson Education/Prentice Hall, New York 1996.*
2. *Govindarajan M, Natarajan S, Senthil Kumar V.S, 'Engineering Ethics', Prentice Hall of India, New Delhi, 2004.*
3. *Charles D. Fleddermann, 'Ethics in Engineering', Pearson Education/Prentice Hall, New Jersey, 2004 (Indian Reprint)*

Reference Books:

1. *Charles E Harris, Michael S. Protchard and Michael J Rabins, 'Engineering Ethics - Concept and Case', Wadsworth Thompson Learning, United States, 2000 (Indian Reprint now available)*
2. *'Concepts and Cases', Thompson Learning (2000)*
3. *John R Boatright, 'Ethics and Conduct of Business', Pearson Education, New Delhi, 2003.*
4. *Edmund G Seebauer and Robert L Barry, 'Fundamentals of Ethics for Scientists and Engineers', Oxford University of Press, Oxford, 2001.*

COURSE OUTCOMES:

Upon completion of this course, students should have

1. Understood the core values that shape the ethical behaviour of an engineer
2. Exposed awareness on professional ethics and human values.
3. Known their role in technological development

