1/4 B.Tech - SECOND SEMESTER

EC2T5 **Professional Ethics** **Credits: 2**

Lecture : 4 periods/week **Internal assessment: 30 marks**
Tutorial: ---- **Semester end examination: 70 marks**

Course Objectives:

- Increase ethical **sensitivity**
- Increase ethical **knowledge**
- Raise ethical issues in class a few times, allow some discussion , point out pitfalls of students' proposals, and conclude by describing some standard ways of handling them, explaining advantages and disadvantages.
- Include hard ethical issues in design problems and advise them to seek advice from "professionals" (list of practitioners, professional committees, other experts). This is a chance to learn about resources other then the code.

Learning Outcomes:

- Students can understand and analyze healthcare ethics theory and methods as well as major applied topics.
- Students can critically relate healthcare ethics with multi-disciplinary fields in health care as a diverse and global enterprise (e.g., empirical research, law, medicine, philosophy, religion, science).
- Students can research and write scholarly essays, teach and communicate effectively, and present academic papers that present cogent argument(s), engage scholarly literature, and demonstrate critical thinking and analysis.
- Students can integrate academic learning with experiential learning in clinical/organizational rotations as a function of service-learning and development as a healthcare ethics professional.
- Students can function with expertise in healthcare ethics and provide ethical leadership with the knowledge, skills, and competencies that characterize professional services (e.g., ethics consultations, membership on ethics committees and institutional review boards).

UNIT- I

INTRODUCTION:

What is profession - Engineering and Professionalism - Two model s of Professionalism - Three Types of Ethics or Morality – The Negative face of Engineering Ethics - The Positive Face of Engineering Ethics - Responsibility in Engineering - Engineering Standards - The Standard Care – Blame-Responsibility and Causation

UNIT- II

ENGINEERING ETHICS:

Engineering Ethics – Variety of moral issues – types of inquiry moral dilemmas – moral autonomy – The problems of Many Hands – Kohlburg’s theory – Gilligan’s theory Impediments to Responsible Action

UNIT III

GENERAL PRINCIPLES:

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

UNIT- IV

TECHNOLOGY DIMENSIONS:

Engineer's Responsibility for Safety – Social and Value dimensions of Technology - Technology Pessimism – The Perils of Technological Optimism – The Promise of Technology – Computer Technology Privacy and Social Policy – Risk, Benefit Analysis – Collegiality and loyalty.

Learning resources

Text books :

1. Ethics in Engineering, Mike Martin and Roland Schinzinger, McGraw Hill Publications, 3rd edition, 2012.
2. Engineering Ethics, Charles E Harris and Michael J Rabins, Cengage Learning, 4th edition, 2009.

References:

1. Fundamentals of Ethics for Scientists and Engineers, Erbauer Edmund, G. and Robert L Barry, Oxford University Press, 2001.
2. Indian Culture Values and Professional Ethics, Murthy, P.S.R. BS Publications, 2nd edition, 2012.
3. Ethics in Engineering Practice and Research, Caroline Whitback. Cambridge University Press, 2nd edition, 2012.