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| **1901MG701** | | | |  | | **UNIVERSAL HUMAN VALUES AND ETHICS** | | **L** | | **T** | | **P** | **C** |
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| **PREREQUISITES:** | | | | | | Ethical thinking,Professional knowledge. | | | | | | | |
| **COURSE OBJECTIVES:** | | | | | |  | | | | | | | |
|  | | 1. To enable the students to create an awareness on Engineering Ethics and Human Values, to instill Moral and Social Values and Loyalty and to appreciate the rights of others. | | | | | | | | | | | |
|  | | 2. To understand Human values, ethical theory, codes of ethics, work place responsibilities, rights, engineering experimentation, global issues and contemporary ethical issues. | | | | | | | | | | | |
|  | | 3. To understand personal ethics, legal ethics, cultural associated ethics and engineer’s responsibility. | | | | | | | | | | | |
|  | | | | | | | | | | | | | |
| **Module I** | | | | **HUMAN VALUES** | | | | | | | **9 Hours** | | |
| Morals, values and Ethics – Integrity – Work ethic – Service learning – Civic virtue – Respect for others – Living peacefully – Caring – Sharing – Honesty – Courage – Valuing time – Cooperation – Commitment – Empathy – Self confidence – Character – Spirituality – Introduction to Yoga and meditation for professional excellence and stress management. | | | | | | | | | | | | | |
| **Module II** | | | | **ENGINEERING ETHICS** | | | | | | | **9 Hours** | | |
| Senses 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 - Theories about right action – Self-interest – Customs and Religion – Uses of Ethical Theories | | | | | | | | | | | | | |
| **Module III** | | | | **ENGINEERING AS SOCIAL EXPERIMENTATION** | | | | | | | **9 Hours** | | |
| Engineering as Experimentation – Engineers as responsible Experimenters – Codes of Ethics – A Balanced Outlook on Law. | | | | | | | | | | | | | |
| **Module IV** | | | | **SAFETY, RESPONSIBILITIES AND RIGHTS** | | | | | | | **9 Hours** | | |
| Safety and Risk – Assessment of Safety and Risk – Risk Benefit Analysis and Reducing Risk - Respect for Authority – Collective Bargaining – Confidentiality – Conflicts of Interest – Occupational Crime – Professional Rights – Employee Rights – Intellectual Property Rights (IPR) – Discrimination. | | | | | | | | | | | | | |
| **Module V** | | | | **GLOBAL ISSUES** | | | | | | | **9 Hours** | | |
| Multinational Corporations – Environmental Ethics – Computer Ethics – Weapons Development – Engineers as Managers – Consulting Engineers – Engineers as Expert Witnesses and Advisors – Moral Leadership –Code of Conduct – Corporate Social Responsibility. | | | | | | | | | | | | | |
|  | | | | | | | **Total:** | | **45 Hours** | | | | |
| **FURTHER READING / SEMINAR :** | | | | | | |  | |  | | | | |
|  | | | | | | | | | | | | | |
|  | The Challenger case study - Bhopal Gas Tragedy - The Three Mile Island and Chernobyl case studies - Fundamental Rights, Responsibilities and Duties of Indian Citizens -Sample code of ethics like IETE, ASME, ASCE, IEEE, Institution of Engineers (India), Indian Institute of Materials Management. | | | | | | | | | | | | |
| **COURSE OUTCOMES:** | | | | |  | | | | | | | | |
|  | | | After completion of the course, Student will be able to | | | | | | | | | | |
| CO1 | | | Articulate engineering ethics theory with sustained lifelong learning to strengthen autonomous engineering decisions. | | | | | | | | | | |
| CO2 | | | Be an example of faith, character and high professional ethics, and cherish the workplace responsibilities, rights of others, public’s welfare, health and safety. | | | | | | | | | | |
| CO3 | | | Contribute to shape a better world by taking responsible and ethical actions to improve the environment and the lives of world commModuley. | | | | | | | | | | |
| CO4 | | | Fortify the competency with facts and evidences to responsibly confront moral issues raised by technological activities, and serve in responsible positions of leadership. | | | | | | | | | | |
| CO5 | | | Be Proficient in analytical abilities for moral problem solving in engineering situations through exploration and assessment of ethical problems supported by established experiments. | | | | | | | | | | |
| **REFERENCES:** | | | | |  | | | | | | | | |
| 1. Mike W. Martin and Roland Schinzinger, “Ethics in Engineering”, Tata McGraw Hill, New Delhi, 2003. | | | | | | | | | | | | | |
| 2. Govindarajan M, Natarajan S, Senthil Kumar V. S, “Engineering Ethics”, Prentice Hall of India, NewDelhi, 2004. | | | | | | | | | | | | | |
| 3. R S Naagarazan, A text book on professional ethics and human values, new age international limited, Delhi. | | | | | | | | | | | | | |