SNS COLLEGE OF TECHNOLOGY

Coimbatore-35
An Autonomous Institution

Accredited by NBA – AICTE and Accredited by NAAC – UGC with 'A+' Grade
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai

DEPARTMENT OF MECHANICAL ENGINEERING

19GET201 – PROFESSIONAL ETHICS AND HUMAN VALUES

IV YEAR / VII SEM

Faculty i/c

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UNIT I ENGINEERING ETHICS 6

Senses of 'Engineering Ethics' – Variety of moral issues – Types of inquiry – Moral dilemmas – Moral Autonomy – Kohlberg's theory – Gilligan's theory – Consensus and Controversy– Uses of Ethical Theories.

UNIT II ENGINEERING AS SOCIAL EXPERIMENTATION 6

Engineering as Experimentation – Engineers as responsible Experimenters – Codes of Ethics – A Balanced Outlook on Law –Plagiarism- Case studies

UNIT III RESPONSIBILITIES AND RIGHTS 6

Collegiality and loyalty-Respect for Authority – Collective Bargaining – Confidentiality – Conflicts of Interest – Occupational Crime – Professional Rights – Employee Rights – Intellectual Property Rights (IPR) – Discrimination.

UNIT IV UNIVERSAL HUMAN VALUES - INTRODUCTION 6

Need, Basic Guidelines, Content and Process for Value Education - Understanding Harmony in the Human Being - Harmony in Myself! - Understanding Harmony in the Family and Society-Harmony in Human- Human Relationship

UNIT V UNIVERSAL HUMAN VALUES - HARMONY 6

Understanding Harmony in the Nature and Existence - Whole existence as Co-existence Implications of the above Holistic Understanding of Harmony on Professional Ethics

MORALS

- Morals are guiding principles that every citizen should hold.
- Morals are foundational concepts defined on both an individual and societal level.
- At the most basic level, morals are the knowledge of the difference between right and wrong.

ENGINEERING ETHICS is:

• The study of moral issues and decisions confronting individuals and organizations involved in engineering and

• The study of related questions about moral ideals, character, policies and relationships of people and organizations involved in technological activity.

TRAINING IN PREVENTIVE ETHICS

- Stimulating the moral imagination
- Recognizing ethical issues
- Developing analytical skills
- Eliciting a sense of responsibility
- Tolerating disagreement and ambiguity

CLEARLY WRONG ENGINEERING PRACTICES

- Lying
- Deliberate deception
- Withholding information
- Failing to adequately promote the dissemination of information
- Failure to seek out the truth
- Revealing confidential or proprietary information
- Allowing one is judgment to be corrupted.

QUESTIONABLE ENGINEERING PRACTICES

- Trimming – “smoothing of irregularities to make data look extremely accurate and precise”
- Cooking – “retaining only those results that fit the theory and discarding others”.
- Forging – “inventing some or all of the research data…”
- Plagiarism – misappropriating intellectual property.
- Conflicts of interest (such as accepting gifts.)

SENSES OF EXPRESSION OF ENGG. ETHICS

 Ethics is an activity and area of inquiry. It is the activity of understanding moral values, resolving moral issues and the area of study resulting from that activity.

 When we speak of ethical problems, issues and controversies, we mean to distinguish them from non moral problems.

 Ethics is used to refer to the particular set of beliefs, attitudes and habits that a person or group displays concerning moralities.

VARIETIES or APPROACHES OF MORAL ISSUES

MICRO-ETHICS emphasizes typically everyday problems that can take on significant proportions in an engineer's life or entire engineering office.

MACRO-ETHICS addresses societal problems that are often shunted aside and are not addressed until they unexpectedly resurface on a regional or national scale.

MORAL PROBLEMS IN ENGINEERING (SOME EXAMPLES)

4.1. An inspector discovered faulty construction equipment and applied a violation tag, preventing its use. The supervisor, a construction manager viewed the case as a minor abrasion of the safety regulations and ordered the removal of the tag to speed up the project. When the inspector objected to this, he was threatened with disciplinary action.

4.2. A chemical plant dumped wastes in a landfill. Hazardous substances found their way into the underground water table. The plant's engineers were aware of the situation but did not change the method of disposal because their competitors did it the same cheap way, and no law explicitly forbade the practice.

4.3. Electronics Company ABC geared up for production of its own version of a popular new item. The product was not yet ready for sale, but even so, pictures and impressive specifications appeared in advertisements. Prospective customers were led to believe that it was available off the shelf and were drawn away from competing lines.

TYPES OF INQUIRIES

1. NORMATIVE INQUIRY

These are about „what ought to be" and „what is good". These questions identify and also justify the morally desirable norms or standards.

Some of the questions are:

A. How far engineers are obligated to protect public safety in given situations?
B. When should engineers start whistle blowing on dangerous practices of their employers?
C. Whose values are primary in taking a moral decision, employee, public or govt?
D. Why are engineers obligated to protect public safety?
E. When is government justified in interfering on such issues and why?

2. CONCEPTUAL INQUIRY:

These questions should lead to clarifications on concepts, principles and issues in ethics.

Examples are:

A) What is „SAFETY" and how is it related to RISK
B) Protect the safety, health and welfare of public-What does this statement mean?
C) What is a bribe?
D) What is a "profession and who are "professionals?

3. FACTUAL (DESCRIPTIVE) INQUIRIES

These are inquiries used to uncover information using scientific techniques. These inquiries get to information about business realities, history of engineering profession, procedures used in assessment of risks and engineers psychology

Thank You