## 19GE701- PROFESSIONAL ETHICS AND HUMAN VALUES

### UNIT I
### HUMAN VALUES

**The Story of a Carpenter**

*An elderly carpenter was ready to retire. He told his employer-contractor of his plans to leave the house- building business and live a more leisurely life with his wife enjoying his extended family.*

*He would miss his paycheck, but he needed to retire. They could get by. The contractor was sorry to see his good worker go and asked if he could build just one more house as a personal favor.*

*The carpenter said yes, but in time it was easy to see that his heart was not in his work. He resorted to shoddy workmanship and used inferior materials. It was an unfortunate way to end his career.*

*When the carpenter finished his work and the builder came to inspect the house, the contractor handed over the house key to the carpenter. "This is your house," he said, "it is my parting gift to you."*

*What a shock! What a Shame! If only he had known he was building his own house, he would have done it all so differently. Now he had to live in the home he built none too well.*

*(Modified from LIVING WITH HONOUR by SHIV KHERA)*

*Do we find ourselves in similar situations as the carpenter?*

Moving through our work hours fast paced, driven to "get the job done", without much thought to moral values.

*How do we regain our focus as individuals and organizations?*

This is the challenge for the employee and the employer.

Ethics are fundamental standards of conduct by which we work as a professional.

**VALUES**

- Values are individual in nature.
- Values are comprised of personal concepts of responsibility, entitlement and respect.
- Values are shaped by personal experience, may change over the span of a lifetime and may be influenced by lessons learned.
- Values may vary according to an individual's cultural, ethnic and/or faith-based background.

*"Never change your core values."*

In spite of all the change around you, decide upon what you will never change: your core values.

Take your time to decide what they are but once you do, do not compromise on them for any reason.

*Integrity* is one such value.

## 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.

## PERSONAL ETHICS

- Simply put, all individuals are morally autonomous beings with the power and right to choose their values, but it does not follow that all choices and all value systems have an equal claim to be called ethical.
- Actions and beliefs inconsistent with the Six Pillars of Character - trustworthiness, respect, responsibility, fairness, caring and citizenship - are simply not ethical.

**PERSONAL ETHICS** - everyday examples

- Software piracy
- Expense account padding
- Copying of homework or tests
- Income taxes
- "Borrowing" nuts and bolts, office supplies from employer
- Copying of Videos or CD's
- Plagiarism
- Using the copy machine at work

## RELIGION AND ETHICS

- The "Golden Rule" is a basic tenet in almost all religions: Christian, Hindu, Jewish, Confucian, Buddhist, Muslim.

- "Do unto others as you would have others do unto you."
  - "Treat others as you would like them to treat you" (Christian).
  - "Hurt not others with that which pains you" (Buddhist)
  - "What is hateful to yourself do not do to your fellow men" (Judaism)
  - "No man is a true believer unless he desires for his brother that which he desires for himself" (Islam)

## MORALITY AND ETHICS

- Concerns the goodness of voluntary human conduct that affects the self or other living things
- Morality (Latin *mores*) usually refers to any aspect of human action
- Ethics (Greek *ethos*) commonly refers only to professional behavior
- Ethics consist of the application of fundamental moral principles and reflect our dedication to fair treatment of each other, and of society as a whole.
- An individual's own values can result in acceptance or rejection of society's ethical standards because even thoughtfully developed ethical rules can conflict with individual values.

## ASPECTS OF ETHICS

There are two aspects to ethics:

- The first involves the ability to discern right from wrong, good from evil and propriety from impropriety.

- The second involves the commitment to do what is right, good and proper. Ethics entails action.

An ALGEBRA course will teach you ALGEBRA.
A HISTORY course will teach you HISTORY.
A MANAGEMENT course will teach you principles of MANAGEMENT.

But, Will an *ETHICS* course teach you to be E*THICAL*?
Think !

## ENGINEERING ETHICS

"Technology can have no legitimacy unless it inflicts no harm"-Adm.H.G. Rickover, father of the US nuclear navy.

- *What does Adm. Rickover mean by this?*
- *Should engineers avoid technology that has the potential for inflicting harm on a society or its members?*

- Engineers have an ethical and social responsibility to themselves, their clients and society.
- Practically (although there is much debate about this), engineering ethics is about balancing cost, schedule, and risk.

**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

**IMPEDIMENTS TO RESPONSIBILITY**

- Self-interest.
- Fear.
- Self-deception.
- Ignorance.
- Egocentric tendencies.
- Microscopic vision.
- Groupthink.

**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.)
  - actual
  - potential
  - apparent

**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's judgment to be corrupted.

**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.

⇨ Ethics and its grammatical variants can be used as synonyms for 'morally correct'.

**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. An electric utility company applied for a permit to operate a nuclear power plant. The licensing agency was interested in knowing what emergency measures had been established for humans safety in case of reactor malfunctioning. The utility engineers described the alarm system and arrangements with local hospitals for treatment. They did not emphasize that this measures applied to plant personnel only and that they had no plans for the surrounding population. When enquired about their omission, they said it was not their responsibility.

4.3. 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.

4.4. 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 govt 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.

**Why study *ENGINEERING ETHICS***

ENGINEERING ETHICS is a means to increase the ability of concerned engineers, managers, citizens and others to responsibly confront moral issues raised by technological activities.

**MORAL DILEMMMA**

There are three types of complexities.

⇨ VAGUENESS: This complexity arises due to the fact that it is not clear to individuals as to which moral considerations or principles apply to their situation.

⇨ CONFLICTING REASONS: Even when it is perfectly clear as to which moral principle is applicable to one's situation, there could develop a situation where in two or more clearly applicable moral principles come into conflict.

⇨ DISAGREEMENT: Individuals and groups may disagree how to interpret, apply and balance moral reasons in particular situations.

Steps in confronting MORAL DILEMMAS:

i) Identify the relevant moral factors and reasons.

ii) Gather all available facts that are pertinent to the moral factors involved.

iii) Rank the moral considerations in the order of their importance as they apply to the situation.

iv) Consider alternative course of action, tracing the full implications of each, as ways of solving dilemma.

v) Talk with colleagues, seeking the suggestions and perspectives of the dilemma.

vi) Arrive at a carefully reasoned judgment by weighing all the relevant moral factors and reasons in light of facts.

All the above steps are distinct, even though they are inter-related and can often be taken jointly

**MORAL AUTONOMY**

- This is viewed as the skill and habit of thinking rationally about ethical issues on the basis of moral concerns independently or by self-determination.
- Autonomous individuals think for themselves and do not assume that customs are

always right.

- They seek to reason and live by general principles.
- Their motivation is to do what is morally reasonable for its own sake, maintaining integrity, self-respect, and respect for others.

"One who breaks an unjust law must do so openly, lovingly, and with a willingness to accept the penalty. I submit that an individual who breaks a law that conscience tells him is unjust and willingly accepts the penalty… is in reality expressing the highest respect for the law." *Rev. Martin Luther King, Jr.* in Letter from a Birmingham Jail, 1963.

A person becomes morally autonomous by improving various practical skills listed below:

i) Proficiency is recognizing moral problems and issues in engineering.

ii) Skill in comprehending, clarifying and critically assessing arguments on opposing sides of moral issues.

iii) The ability to form consistent and comprehensive viewpoints based upon consideration of relevant facts.

iv) Awareness of alternate responses to issues and creative solutions for practical difficulties.

v) Sensitivity to genuine difficulties and subtleties

vi) Increased precision in the use of a common ethical language necessary to express and also defend one's views adequately.

vii) Appreciation of possibilities of using rational dialogue in resolving moral conflicts and the need for tolerance of differences in perspective among orally reasonable people.

viii) A sense of importance of integrating one's professional life and personal convictions i.e. maintaining one's moral integrity.

## KOHLBERG'S THEORY

### STAGES OF MORAL DEVELOPMENT

- ***Pre-conventionalLevel***

  Whatever benefits oneself or avoids punishment. This is the level of development of all young children. -Avoid punishment & Gain Reward

- ***ConventionalLevel***

  Uncritical acceptance of one's family, group or society are accepted as final standard of morality. Most adults do not mature beyond this stage. -1.Gain Approval & Avoid Disapproval & 2. Duty & Guilt

- ***Post-conventionalLevel***

  Motivation to do what is morally reasonable for its own sake, rather than solely from ulterior motives, with also a desire to maintain their moral integrity, self-respect and the respect of other autonomous individuals. They are 'Morally autonomous' people.
  -1. Agreed upon rights & 2. Personal moral standards

## GILLIGAN'S THEORY

- ***Pre-conventional Level***

  This is the same as Kohlberg's first level in that the person is preoccupied with self centered reasoning, caring for the needs and desires of self.

- ***Conventional level***

  Here the thinking is opposite in that, one is preoccupied with not hurting others and a

willingness to sacrifice one's own interests in order to help or nurture others (or retain friendship).

- ***Post-conventional Level***

  Achieved through context-oriented reasoning, rather than by applying abstract rules ranked in a hierarchy of importance. Here the individual becomes able to strike a reasoned balance between caring about other people and pursuing one's own self- interest while exercising one's rights.

**Differences between the TWO THEORIES**

| KOHLBERG | GILLIGAN |
|---|---|
| *I. Ethics of rules and rights* | *Ethics of care* |
| *II. Studies based on well educated, white male's only, tending male bias.* | *Studies included females and colored peoples* |
| *III. Application of abstract rules ranked in the order of importance* | *Application of context-oriented reasoning.* |
| *IV. Studies were hypothesized for both the genders even though the study was conducted mostly on males* | *Study was conducted on both genders and it was found, men based their reasoning on 'justice' and women based theirs on 'care'* |

## HEINZ'S DILEMMA

The famous example used by Kohlberg was called "Heinz's dilemma". A woman living in Europe would die of cancer unless she was given an expensive drug. Her husband, Heinz, could not afford it. But the local pharmacist, who had invented the drug at only one tenth of the sale price refused to sell it to Heinz who could only raise half the required money from borrowings. Desperation drives Heinz to break into the pharmacy and steal the drug to save his wife.

When respondents were asked whether and why Heinz should or should not steal a drug to save his wife from a life-threatening illness. The responses of the individuals were compared with a prototypical response of individuals at particular stages of moral reasoning. Kohlberg noted that irrespective of the level of the individual the response could be same, but the reasoning could be different.

For example, if a child reasoning at a 'preconventional' level might say that it is not right to steal because it is against law and someone might see you.

At a 'conventional' level, an individual might argue that it is not right to steal because it is against law and laws are necessary for society to function.

At a 'postconventional' level, one may argue that stealing is wrong because is against law and it is immoral.

## CONSENSUS AND CONTROVERSY

**CONTROVERSY**:

- All individuals will not arrive at same verdict during their exercising their moral autonomy.
- Aristotle noted long ago that morality is not as precise and clear-cut as arithmetic.
- Aim of teaching engg ethics is not to get unanimous conformity of outlook by indoctrination, authoritarian and dogmatic teaching, hypnotism or any other technique but to improve promotion of tolerance in the exercise of moral autonomy.

**CONSENSUS:**

The conductor of a music orchestra has authority over the musicians and his authority is respected by them by consensus as otherwise the music performance will suffer. Hence the authority and autonomy are compatible.

On the other hand, tension arises between the needs for autonomy and the need for concerns about authority. The difference between the two should be discussed openly to resolve the issue to the common good.

**PROFESSIONS AND PROFESSIONALISM**

Engineers normally imagine that they are servants to organizations rather than a public guardian. Responsibility to the public is essential for a professional.

Who is a professional?

- Obviously a *member* of a profession.

What is a profession?

'JOB' or 'OCCUPATION' that meets the following criteria from which a person *earns his*

*living.*

- Knowledge – Exercise of skills, knowledge, judgment and discretion requiring extensive formal criteria.
- Organization - special bodies by members of the profession to set standard codes of ethics,
- Public good-The occupation serves some important public good indicated by a code of ethics.

Who is a professional engineer?

- Has a bachelor's degree in engineering from an accredited school
- Performs engineering work
- Is a registered and licensed Professional Engineer
- Acts in a morally responsible way while practicing engineering

Differing views on Professionals

"Only consulting engineers who are basically independent and have freedom from coercion can be called as professionals." -Robert L.Whitelaw

"Professionals have to meet the expectations of clients and employers. Professional restraints are to be imposed by only laws and government regulations and not by personal conscience."

-Samuel Florman

"Engineers are professionals when they 1) attain standards of achievement in education, job performance or creativity in engineering and 2) accept the most basic moral responsibilities

to the public as well as employers, clients, colleagues and subordinates."

-Mike Martin & Roland Schinzinger

**MOTIVES FOR PROFESSIONALISM**

- A desire for interesting and challenging work and the pleasure in the act of changing the world.
- The joy of creative efforts. Where a scientist's interest is in discovering new technology, engineers interest is derived from creatively solving practical problems.
- The engineer shares the scientist's job in understanding the laws and riddles of the universe.
- The sheer magnitude of the nature – oceans, rivers, mountains and prairies – leads engineers to build engineering marvels like ships, bridges, tunnels, etc., which appeal to human passion.
- The pleasure of being in the presence of machines generating a comforting and absorbing sense of a manageable, controlled and ordered world.
- Strong sense of helping, of directing efforts towards easing the lot of one's fellows.

The main pleasure of the engineer will always be to contribute to the well-being of his fellow-men.

**MODELS OF PROFESSIONAL ENGINEERS**

1. SAVIOR: The representative engineer is a savior who will redeem society from poverty, inefficiency, waste and the drudgery of manual labour.
2. GUARDIAN: Engineers know, the directions in which and pace at which,

technology should develop.

3. BUREAUCRATIC SERVANT: The engineer as the loyal organization person uses special skills to solve problems.

4. SOCIAL SERVANT: Engineers, in co-operation with management, have the task of receiving society's directives and satisfying society's desires.

5. SOCIAL ENABLER AND CATALYST: Engineers play a vital role beyond mere compliance with orders. They help management and society understand their own needs and to make informed decisions.

6. GAME PLAYER: Engineers are neither servants nor masters of anyone. They play by the economic game rules that happen to be in effect at a given time.

**TYPES OF ETHICAL THEORIES**

| S.NO | TYPES | BASED ON |
|---|---|---|
| 1 | Virtue ethics | Virtues and vices |

| | | |
|---|---|---|
| 2 | Utilitarianism | Most good for most people |
| 3 | Duty ethics | Duties to respect persons |
| 4 | Rights ethics | Human Rights |

**VIRTUE ETHICS**

- *"The unexamined life is not worth living."* (Socrates, 470-399 B.C.)
- *"The happy life is thought to be virtuous; now a virtuous life requires exertion and does not consist in amusement."* (Aristotle, 384-322 B.C.)

The Four Main Virtues

- Prudence (mind): to think about a moral problem clearly and completely
- Temperance (emotions): control attraction to positive emotions
- Fortitude (emotions): control aversion for negative emotions
- Justice (will): choose according to truth and fairness.

Virtue Ethics

- Focuses on the type of person we should strive to be
- Actions which reflect *good character* traits (virtues) are inherently *right*
- Actions which reflect *bad character* traits (vices) are inherently *wrong*
- Virtue ethics are tied more to individual behavior than to that of an organization (e.g. business, government)

***ARISTOTLE*** says that moral virtues are tendencies, acquired through habit formation, to

reach a proper balance between extremes in conduct, emotion, desire and attitude i.e. virtues are tendencies to find the Golden Mean between the extremes of too much and too little.

Some of the virtues are defined using examples here:

| Virtue | Too much | Too less |
|---|---|---|
| (Golden mean between extremes) | | |
| *Courage* | *Foolhardiness* | *Cowardice* |
| *Truthfulness* | *Revealing all in violation of tact and confidentiality* | *Being secretive or lacking in candor* |
| *Generosity* | *Wasting one's resources* | *Being miserly* |
| *Friendliness* | *Being annoyingly effusive* | *Sulky or surly* |

**PROFESSIONAL RESPONSIBILITY**

- Being morally responsible as a professional.
- Most basic and comprehensive professional virtue.
- Creation of useful and safe technological products while respecting the autonomy of clients and public, especially in matters of risk taking.

This encompasses a wide variety of the more specific virtues grouped as follows:

1. **SELF DIRECTION VIRTUES:**

   Fundamental virtues in exercising our moral autonomy and responsibility. e.g. self understanding, humility, good moral judgment, courage, self discipline, perseverance, commitments, self-respect and dignity

2. **PUBLIC SPIRITED VIRTUES:**

   Focusing on the good of the clients and public affected by the engineers' work by . not directly

and intentionally harming others i.e. 'nonmaleficence'.

Benificence, sense of community, generosity are other virtues falling in this category.

3. **TEAMWORK VIRTUES:**

Enables professionals to work successfully with others. E.g. collegiality, cooperativeness, the ability to communicate, respect for authority, loyalty to employers and leadership qualities.

4. **PROFICIENCY VIRTUES:**

Mastery of one's craft that characterize good engineering practice e.g. competence, diligence, creativity, self-renewal through continuous education.

**MORAL INTEGRITY**

Moral integrity is the unity of character on the basis of moral concern, and especially on the basis of honesty. The unity is consistency among our attitudes, emotions and conduct in relation to justified moral values.

**SELF-RESPECT**

- Valuing oneself in morally appropriate ways.
- Integral to finding meaning in one's life and work
- A pre-requisite for pursuing other moral ideals and virtues.
- Self-respect is a moral concept of properly valuing oneself but self-esteem is a psychological concept of positive attitude towards oneself.

Self-respect takes two forms.

1. *Recognition self-respect* is properly valuing oneself because of one's inherent moral worth, the same worth that every other human being has.