MUTHAYAMMAL ENGINEERING COLLEGE

(An Autonomous Institution)

(Approved by AICTE, New Delhi, Accredited by NAAC & Affiliated to Anna University)

Rasipuram - 637 408, Namakkal Dist., Tamil Nadu

LECTURE HANDOUTS

BME

II/III

Course Name with Code : Professional Ethics and Human Values 19HSS08

Course Teacher : Mrs.D.G.BeautlinVinola

Unit : 1 Human Values

Date of Lecture:

Topic of Lecture: Morals, Values and Ethics

Introduction :
- Morals are the welfare principles enunciated by the wise people, based on their experience and wisdom.They were edited, changed or modified or evolved to suit the geography of the region, rulers (dynasty),and in accordance with development of knowledge in science and technology and with time.
- Humans have the unique ability to define their identity, choose their values and establish their beliefs.Al Ethics is the word that refers to morals, values, and beliefs of the individuals, family or the society.
- The word has several meanings. Basically it is an activity and process of inquiry.l three of these directly influence a person's behavior.

Prerequisite knowledge for Complete understanding and learning of Topic:
- Concepts of Ethics
- Concepts of moral and human values

Morals, Values and Ethics

Morals

Morals are the welfare principles enunciated by the wise people, based on their experience and wisdom.

They were edited, changed or modified or evolved to suit the geography of the region, rulers (dynasty), and in accordance with development of knowledge in science and technology and with time.

Morality is concerned with principles and practices of morals such as:
(*a*) What ought or ought not to be done in a given situation?
(*b*) What is right or wrong about the handling of a situation? and
(*c*) What is good or bad about the people, policies, and ideals involved?

As against morals and ethics, laws are norms, formally approved by state, power or national or

international political bodies. Breaking the norms is called *crime*, and invite specific punishment.

Morality is different from Ethics in the following ways:

Morality	Ethics
1. More general and prescriptive based on customs and traditions.	1. Specific and descriptive. It is a critical reflection on morals.
2. More concerned with the results of wrong action, when done.	2. More concerned with the results of a right action, when not done.
3. Thrust is on judgment and punishment, in the name of God or by laws.	3. Thrust is on influence, education, training through codes, guidelines, and correction.
4. In case of conflict between the two, morality is given top priority, because the damage is more. It is more common and basic.	4. Less serious, hence second priority only. Less common. But relevant today, because of complex interactions in the modern society.
5. Example: Character flaw, corruption, extortion, and crime.	5. Example: Notions or beliefs about manners, tastes, customs, and towards laws.

Values

Definition
Humans have the unique ability to define their identity, choose their values and establish their beliefs. All three of these directly influence a person's behavior.

People have gone to great lengths to demonstrate the validity of their beliefs, including war and sacrificing their own life! Conversely, people are not motivated to support or validate the beliefs of another, when those beliefs are contrary to their own.People will act congruent with their personal values or what they deem to be important.

A value is defined as a principle that promotes well-being or prevents harm." Another definition is: Values are our guidelines for our success—our paradigm about what is acceptable." Personal values are defined as: "Emotional beliefs in principles regarded as particularly favorable or important for the individual." Our values associate emotions to our experiences and guide our choices, decisions and actions.

Types of Values

The five core human values are: (1) Right conduct, (2) Peace, (3) Truth, (4) Love, and (5) Nonviolence.

1. Values related to RIGHT CONDUCT are:
(a) SELF-HELP SKILLS: Care of possessions, diet, hygiene, modesty, posture, self reliance, and tidy appearance

(b) SOCIAL SKILLS: Good behavior, good manners, good relationships, helpfulness, No wastage, and good environment, and

(c) ETHICAL SKILLS: Code of conduct, courage, dependability, duty, efficiency.

2. Values related to PEACE are: Attention, calmness, concentration, contentment, dignity, discipline, equality, equanimity, faithfulness, focus, gratitude, happiness, harmony, humility,

inner silence, optimism, patience, reflection, satisfaction, self-acceptance, self-confidence, self-control, self-discipline, self-esteem, self-respect, sense control, tolerance, and understanding

3. Values related to TRUTH are: Accuracy, curiosity, discernment, fairness, fearlessness, honesty, integrity (unity of thought, word, and deed), intuition, justice, optimism, purity, quest for knowledge, reason, self-analysis, sincerity, sprit of enquiry, synthesis, trust, truthfulness and determination.

4. Values related to LOVE are: Acceptance, affection, care, compassion, consideration, dedication, devotion, empathy, forbearance, forgiveness, friendship, generosity, gentleness, humanness, interdependence, kindness, patience, patriotism, reverence, sacrifice, selflessness, service, sharing, sympathy, thoughtfulness, tolerance and trust

5. Values related to NON-VIOLENCE are:
(a) PSYCHOLOGICAL: Benevolence, compassion, concern for others, consideration,forbearance, forgiveness, manners, happiness, loyalty, morality, and universal love

(b) SOCIAL: Appreciation of other cultures and religions, brotherhood, care of environment, citizenship, equality, harmlessness, national awareness, perseverance, respect for property, and social justice.

ETHICS

Ethics is the word that refers to morals, values, and beliefs of the individuals, family or the society. The word has several meanings. Basically it is an activity and process of inquiry.

Secondly, it is different from non-moral problems, when dealing with issues and controversies.

Thirdly, ethics refers to a particular set of beliefs, attitudes, and habits of individuals or family or groups concerned with morals.

Fourth, it is used to mean 'morally correct'.The study on ethics helps to know the people's beliefs, values, and morals, learn the good and bad of them, and practice them to maximize their well-being and happiness. It involves the inquiry on the existing situations, form judgments and resolve the issues.

In addition, ethics tells us how to live, to respond to issues, through the duties, rights, responsibilities, and obligations. In religion, similar principles are included, but the reasoning on procedures is limited.

The principles and practices of religions have varied from to time to time (history), region (geography, climatic conditions), religion,society, language, caste and creed. But ethics has grown to a large extent beyond the barriers listed above. In ethics, the focus is to study and apply the principles and practices, universally.

Video Content / Details of website for further learning (if any):

https://www.slideshare.net/rajendrasinghthakur/52-ethics-and-moral-value

Important Books/Journals for further learning including the page nos.:
Pofessional Ethics and Human values, New Age International(P) Limited, Publishers by R.S.Nagarazan, Page No :2 -4

Course Teacher

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L2

LECTURE HANDOUTS

BME

II/III

Course Name with Code : **Professional Ethics and Human Values 19HSS08**

Course Teacher : **Mrs.D.G.BeautlinVinola**

Unit :1 **Human Values**   Date of Lecture:

Topic of Lecture: Integrity ,Work Ethics

Introduction :
- Professional integrity is the practice of maintaining appropriate ethical behavior. It is the practice of showing strong adherence to moral and ethical principles and values such as honesty, honor, dependability and trustworthiness.
- Work ethics is a belief that hard work and diligence have a moral benefit and an inherent ability, virtue or value to strengthen character and individual abilities.

Prerequisite knowledge for Complete understanding and learning of Topic:
- Concepts of ethical behavior
- Concepts of trustworthiness

Integrity ,Work Ethics

Integrity

Integrity is defined as the unity of thought, word and deed (honesty) and open mindedness. It includes the capacity to communicate the factual information so that others can make well-informed decisions.

It yields the person's 'peace of mind', and hence adds strength and consistency in character, decisions, and actions. This paves way to one's success. It is one of the self-direction virtues. It enthuse people not only to execute a job well but to achieve excellence in performance.

 It helps them to own the responsibility and earn self-respect and recognition by doing the job. Moral integrity is defined as a virtue, which reflects a consistency of one's attitudes, emotions, and conduct in relation to justified moral values.

Work Ethics

Industry and Society are the two systems which interact with each other and are interdependent. Society requires industry/business system which provides manufacturing, distribution and consumption activities.

It needs investment (capital input), labor (input), supply (raw materials), production (industries, business organizations), marketing and distribution (transport), and consumption (public, customer).

A lot of transactions (and interactions) between these sub-systems involving people are needed for the welfare of the society. It is here, the work ethics plays an essential role.

Work ethics is defined as a set of attitudes concerned with the value of work, which forms the motivational orientation.

The 'work ethics' is aimed at ensuring the economy (get job, create wealth, earn salary), productivity (wealth, profit), safety (in workplace), health and hygiene (working conditions),privacy (raise family), security (permanence against contractual, pension, and retirement benefits),cultural and social development (leisure, hobby, and happiness), welfare (social work), environment(anti-pollution activities), and offer opportunities for all, according to their abilities, but without discrimination.

Many complex social problems exist in the industrial/business scenario, because:

1. The people desire to be recognized as individuals and treated with dignity, as living human beings. Work is intrinsically valuable so far as it is enjoyable or meaningful in allowing personal expression and self-fulfillment. Meaningful work is worth doing for the sense of personal identity and the self-esteem it holds.

2. Economic independence: Work is the major instrumental good in life. It is the main source of providing the income needed to avoid economic dependence on others, for obtaining desired materials and services, and for achieving status and recognition from others.

3. Pay as well as the pace of work should be in commensurate with the expertise required,acquired, and utilized in the persons. Exploitation and bargained pay should be discouraged.

4. Privacy (personal freedom) of the employee, including women, is to be protected. At the same time, confidentiality of the employer is also to be protected. Mutual trust and loyalty both ways play major roles in this aspect.

5. Security during job and upon retirement: This concept is being accepted only in government jobs, public limited companies, and corporate organizations. The western thought has influenced the Indian private industries and multinationals in a paradigm shift from 'lifelong employment' to policies such as 'merit only', 'hire and fire', 'pay and use' etc. This situation has no doubt created tension in the Indian scene.

6. Recognition to non-work activities, such as leisure, paid holiday on the day of visit of a dignitary, social service, and other developmental activities. The workers in prosperous countries are less willing to consider 'work' as their prime interest in life. They claim that such service activities give them peace of mind and happiness. However, such a trend is likely to decline the work ethics.

7. Hard work and productivity are very essential for the success of an industry. The quality of work life deserves to be improved. Hard labor, undignified jobs (human-drawn rikshaw,people carrying night soil), and hazardous jobs are to be made less straining, dignified, and safer. Automation and CNC systems to a large extent have been successful in lessening the human burden. Still, many a hard work can not be replaced by 'virtual work', in the near future.

8. Employee alienation: Absence of or inadequate 'recognition and reward system' and 'grievance redressal system', lack of transparency in policy implementation, factions in trade unions etc. lead to ethical problems, affecting the work ethics. Participative management, quality circles, job rotation, and flexible working hours are some of the measures to counter this situation.

9. A different view of work ethics: Work is considered as a necessary evil. It is a thing one must do in order to avoid worse evils, such as dependency and poverty. That is a major source of anxiety and unhappiness.

10. As per the Protestant Work Ethics, the financial success is a sign that is favored by God. It means making maximal profit is a duty mandated by God. It is to be obtained rationally,diligently, and without compromising with other values such as spending time with one's family and not exploiting or harming others.

Video Content / Details of website for further learning (if any):

https://www.slideshare.net/Vaheedharahaman/ppt-on-integrity-at-work-86463036

Important Books/Journals for further learning including the page nos.:

Pofessional Ethics and Human values, New Age International(P) Limited, Publishers by R.S.Nagarazan, Page No :5 - 6

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| L3 |

| LECTURE HANDOUTS |

| BME |

| II/III |

Course Name with Code : Professional Ethics and Human Values
19HSS08

Course Teacher   :Mrs.D.G.BeautlinVinola

Unit   : I Human Values   **Date of Lecture:**

Topic of Lecture: Service Learning ,Civic Virtue

Introduction :
- Service learning refers to learning the service policies, procedures, norms, and conditions, other than'the technical trade practices'. The service learning includes the characteristics of the work, basic requirements, security of the job, and awareness of the procedures, while taking decisions and actions.
- Civic virtues are the moral duties and rights, as a citizen of the village or the country or an integral part of the society and environment

Prerequisite knowledge for Complete understanding and learning of Topic:
- Concept of learning
- Aware about decisions and actions

Service Learning ,Civic Virtue

Service Learning
It helps the individuals to interact ethically with colleagues, to effectively coordinate with other departments, to interact cordially with suppliers as well as the customers, and to maintain all these friendly interactions.

Alternatively, the service learning may be defined as the non-paid activity, in which service is provided on voluntary basis to the public (have-nots in the community), non-profitable institutions, and charitable organizations. It is the service during learning.

This includes training or study on real life problems and their possible solutions, during the formal learning, i.e., courses of study. In the industrial scenario, adoption, study, and development of public health or welfare or safety system of a village or school is an example of service learning by the employees.

The engineering student analyzing and executing a socially-relevant project is another example of service learning.The service learning is a methodology falling under the category of experiential

education. It is one of the forms of experiential learning and community service opportunities. It is distinguished in the following ways:

1. Connection to curriculum: Integrating the learning into a service project is a key to successful service learning. Academic ties should be clear and built upon existing disciplinary skills.

2. Learner's voice: Beyond being actively engaged in the project, trainees have the opportunity to select, design, implement, and evaluate their service activity.

3. Reflection: Structured opportunities are created to think, talk, and write about the service experience. The balance of reflection and action allows the trainee to be constantly aware of the impact of their work.

4. Partners in the community: Partnership with community agencies are used to identify genuine needs, provide mentorship, and contribute input such as labor and expertise towards completing the project.

Civic Virtue

Civic virtues are the moral duties and rights, as a citizen of the village or the country or an integral part of the society and environment. An individual may exhibit civic virtues by voting, volunteering, and organizing welfare groups and meetings.
The duties are:
1. To pay taxes to the local government and state, in time.
2. To keep the surroundings clean and green.
3. Not to pollute the water, land, and air by following hygiene and proper garbage disposal.
For example, not to burn wood, tyres, plastic materials, spit in the open, even not to smoke
in the open, and not to cause nuisance to the public, are some of the civic (duties) virtues.
4. To follow the road safety rules.

On the other hand, the rights are:

1. To vote the local or state government.
2. To contest in the elections to the local or state government.
3. To seek a public welfare facility such as a school, hospital or a community hall or transport
or communication facility, for the residents.
4. To establish a green and safe environment, pollution free, corruption free, and to follow ethical
principles. People are said to have the right to breathe in fresh air, by not allowing
smoking in public.
5. People have inalienable right to accept or reject a project in their area. One has the right to
seek legal remedy, in this respect, through public interest petition.
George Washington embodied the civic virtues as indispensable for a self-governing administration.
These virtues are divided into four categories:

1. Civic Knowledge
Citizens must understand what the Constitution says about how the government is working, and what the government is supposed to do and what not to do. We must understand the basis of our responsibilities as citizens, besides duties and rights. We must be able to recognize when the government or another citizen infringes upon our rights. It implies that the government requires the participation of the enlightened citizens, to serve and survive.
2. Self-Restraint
For citizens to live in a free society with limited government each citizen must be able to control or restrain himself; otherwise, we would need a police state—that is, a dictatorial government to maintain safety and order. He advocated for morality and declared that happiness is achieved and sustained through virtues and morals. He advocated and demonstrated self-restraint several times in his private and public life, and naturally he was a great leader.
3. Self-Assertion

Self-assertion means that citizens must be proud of their rights, and have the courage to stand up in public and defend their rights. Sometimes, a government may usurp the very rights that it was created to protect. In such cases, it is the right of the people to alter or abolish that government (e.g., voting rights, rights call back).

4. Self-Reliance

Citizens who cannot provide for themselves will need a large government to take care of them. Once citizens become dependent on government for their basic needs, the people are no longer in a position to demand that government act within the confines of the Constitution. Self-reliant citizens are free citizens in the sense that they are not dependent on others for their basic needs. They do not need a large provider-government, which has the potential to become an oppressive government, to meet those needs. Only a strong self-reliant citizenry will be able to enjoy fully the blessings of liberty. These civic virtues, applicable to local, state, and central governments, nourish freedom and civil liberty at the root of democracy.

Video content / Details of website for further learning (if any):

https://www.slideshare.net/lisav/service-learning-civic-engagement

Important Books/Journals for further learning including the page nos.:

Pofessional Ethics and Human values, New Age International(P) Limited, Publishers by R.S.Nagarazan, Page No :7 - 9

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II/III

Course Name with Code : Professional Ethics and Human Values
19HSS08

Course Teacher   : Mrs.D.G.BeautlinVinola

Unit: I Human Values   Date of Lecture:

Topic of Lecture: Respect for others ,Living Peacefully

Introduction :
- Genuine respect for one another leads to peaceful living. Respect for and development of human life requires peace and at the same time, promotes peace. True peace is not merely the absence of war, and it is not limited to maintaining a balance of powers between adversarie.
- To live peacefully, one should start install peace within (self). Charity begins at home. Then one can spread peace to family, organisation where one works, and then to the world, including the environment.

Prerequisite knowledge for Complete understanding and learning of Topic:
- Concept of genuine respect
- Concept of charity

Respect for others,Living Peacefully

Respect for others
This is a basic requirement for nurturing friendship, team work, and for the synergy it promotes and sustains. The principles enunciated in this regard are:

1. Recognize and accept the existence of other persons as human beings, because they have a right to live, just as you have.

2. Respect others' ideas (decisions), words, and labor (actions). One need not accept or approve or award them, but shall listen to them first. One can correct or warn, if they commit mistakes. Some people may wait and watch as fun, if one falls, claiming that they know others' mistakes before and know that they will fall! Appreciate colleagues and subordinates on their positive actions. Criticize constructively and encourage them. They are bound to improve their performance, by learning properly and by putting more efforts.

3. Show 'goodwill' on others. Love others. Allow others to grow. Basically, the goodwill reflects on the originator and multiplies itself on everybody. This will facilitate collinearity,focus, coherence, and

strength to achieve the goals.

Living Peacefully

To live peacefully, one should start install peace within (self). Charity begins at home. Then one can spread peace to family, organisation where one works, and then to the world, including the environment.

Only who are at peace can spread peace. You cannot gift an article which you do not possess. The essence of oriental philosophy is that one should not fight for peace. It is oxymoron. War or peace can be won only by peace, and not by wars !One should adopt the following means to live peacefully, in the world:

Nurture
1. Order in one's life (self-regulation, discipline, and duty).
2. Pure thoughts in one's soul (loving others, blessing others, friendly, and not criticizing or hurting others by thought, word or deed).
3. Creativity in one's head (useful and constructive).
4. Beauty in one's heart (love, service, happiness, and peace).

Get
5. Good health/body (physical strength for service).

Act
6. Help the needy with head, heart, and hands (charity). Service to the poor is considered holier than the service to God.
7. Not hurting and torturing others either physically, verbally, or mentally.

The following are the factors that promote living, with internal and external peace:
1. Conducive environment (safe, ventilated, illuminated and comfortable).
2. Secured job and motivated with 'recognition and reward'.
3. Absence of threat or tension by pressure due to limitations of money or time.
4. Absence of unnecessary interference or disturbance, except as guidelines.
5. Healthy labor relations and family situations.
6. Service to the needy (physically and mentally-challenged) with love and sympathy

Video Content / Details of website for further learning (if any):

https://www.slideshare.net/JohnGabrielleCabradi1/respect-for-others-63590816

Important Books/Journals for further learning including the page nos.:

Pofessional Ethics and Human values, New Age International(P) Limited, Publishers by R.S.Nagarazan, Page No :9 -10

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BME

II/III

Course Name with Code : **Professional Ethics and Human Values 19HSS08**

Course Teacher : **Mrs.D.G.BeautlinVinola**

Unit: I Human Values   **Date of Lecture:**

Topic of Lecture: Caring, Sharing, Honesty

Introduction :
- Caring is feeling for others. It is a process which exhibits the interest in, and support for, the welfare of others with fairness, impartiality and justice in all activities, among the employees, in the context of professional ethics.
- Sharing is a process that describes the transfer of knowledge(teaching, learning, and information), experience (training), commodities (material possession) and facilities with others.
- Truthfulness is to face the responsibilities upon telling truth.

Prerequisite knowledge for Complete understanding and learning of Topic:
- Concept of Sharing
- Concept of truthfulness

Caring, Sharing, Honesty
Caring
Caring is feeling for others. It is a process which exhibits the interest in, and support for, the welfare of others with fairness, impartiality and justice in all activities, among the employees, in the context of professional ethics. It includes showing respect to the feelings of others, and also respecting and preserving
the interests of all others concerned. Caring is reflected in activities such as friendship, membership in social clubs and professional societies, and through various transactions in the family, fraternity, community, country and in international councils.
In the present day context, caring for the environment (including the fauna and flora) has become a necessity for our very survival. If we do not care for the environment, the environment will scare us.
Sharing
Primarily, caring influences 'sharing'. Sharing is a process that describes the transfer of knowledge (teaching, learning, and information), experience (training), commodities (material possession) and facilities with others. The transfer should be genuine, legal, positive, voluntary, and without any expectation in return. However, the proprietary information it should not be shared with outsiders. Through this process of sharing, experience, expertise, wisdom and other benefits reach more people faster. Sharing is voluntary and it can not be driven by force, but motivated successfully through

ethical principles. In short, sharing is 'charity'

For the humanity, 'sharing' is a culture. The 'happiness and wealth' are multiplied and the 'crimes and sufferings' are reduced, by sharing. It paves the way for peace and obviates militancy. Philosophically,

the sharing maximizes the happiness for all the human beings. In terms of psychology, the fear, divide, and distrust between the 'haves' and 'have-nots' disappear. Sharing not only paves the way to prosperity,

early and easily, and sustains it. Economically speaking, benefits are maximized as there is no wastage or loss, and everybody gets one's needs fulfilled and satisfied. Commercially speaking, the profit is maximized. Technologically, the productivity and utilization are maximized by sharing

Honesty

Honesty is a virtue, and it is exhibited in two aspects namely,

(*a*) Truthfulness and

(*b*) Trustworthiness.

Truthfulness is to face the responsibilities upon telling truth. One should keep one's word or promise. By admitting one's mistake committed (one needs courage to do that!), it is easy to fix them. Reliable engineering judgment, maintenance of truth, defending the truth, and communicating the truth, only when it does 'good' to others, are some of the reflections of truthfulness. But trustworthiness is maintaining integrity and taking responsibility for personal performance. People abide by law and live by mutual trust. They play the right way to win, according to the laws or rules (legally and morally). They build trust through reliability and authenticity. They admit their own mistakes and confront unethical actions in others and take tough and principled stand, even if unpopular.

Honesty is mirrored in many ways. The common reflections are:

(*a*) Beliefs (intellectual honesty).

(*b*) Communication (writing and speech).

(*c*) Decisions (ideas, discretion).

(*d*) Actions (means, timing, place, and the goals). and

(*e*) Intended and unintended results achieved.

As against this, some of the actions of an engineer that leads to dishonesty are:

1. Lying: Honesty implies avoidance of lying. An engineer may communicate wrong or distorted test results intentionally or otherwise. It is giving wrong information to the right people.

2. Deliberate deception: An engineer may judge or decide on matters one is not familiar or with insufficient data or proof, to impress upon the customers or employers. This is a self deceit.

3. Withholding the information: It means hiding the facts during communication to one's superior or subordinate, intentionally or otherwise.

4. Not seeking the truth: Some engineers accept the information or data, without applying their mind and seeking the truth.

5. Not maintaining confidentiality: It is giving right information to wrong people. The engineers should keep information of their customers/clients or of their employers confidential and should not discuss them with others.

6. Giving professional judgment under the influence of extraneous factors such as personal benefits and prejudice. The laws, experience, social welfare, and even conscience are given a go-bye by such actions. Certainly this is a higher-order crime.

Video Content / Details of website for further learning (if any):

https://www.slideshare.net/supriyapanda547/honesty-44476182

Important Books/Journals for further learning including the page nos.:

Pofessional Ethics and Human values, New Age International(P) Limited, Publishers by R.S.Nagarazan, Page No :10 -12

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LECTURE HANDOUTS

BME

II/III

Course Name with Code   : **Professional Ethics and Human Values 19HSS08**

Course Teacher   : **Mrs.D.G.BeautlinVinola**

Unit: I Human Values   **Date of Lecture:**

Topic of Lecture: Courage, Value time

Introduction :
- Courage is the tendency to accept and face risks and difficult tasks in rational ways. Time is rare resource. Once it is spent, it is lost forever.
- It cannot be either stored or recovered. Hence,time is the most perishable and most valuable resource too. This resource is continuously spent, whether any decision or action is taken or not.

Prerequisite knowledge for Complete understanding and learning of Topic:
- Concepts of courage
- Concepts of Time Management

Courage, Value time

Courage

Courage is the tendency to accept and face risks and difficult tasks in rational ways. Self-confidence is the basic requirement to nurture courage.

Courage is classified into three types, based on the types of risks, namely

(*a*) Physical courage,

(*b*) Social courage, and

(*c*) Intellectual courage.

 In physical courage, the thrust is on the adequacy of the physical strength, including the muscle power and armaments. People with high adrenalin, may be prepared to face challenges for the mere 'thrill' or driven by a decision to 'excel'. The social courage involves the decisions and actions to change the order, based on the conviction for or against certain social behaviors.

This requires leadership abilities, including empathy and sacrifice, to mobilize and motivate the followers, for the social cause. The intellectual courage is inculcated in people through acquired knowledge, experience, games, tactics, education and training. In professional ethics, courage is applicable to the employers, employees,public, and the press.

Look before you leap. One should perform Strengths, Weakness, Opportunities, and Threat(SWOT)

analysis. Calculate (estimate) the risks, compare with one's strengths, and anticipate the end results, while taking decisions and before getting into action. Learning from the past helps. Past experience (one's own or borrowed!) and wisdom gained from self-study or others will prepare one to plan and act with self-confidence, succeed in achieving the desired ethical goals through ethical means.

Opportunities and threat existing and likely to exist in future are also to be studied and measures to be planned. This anticipatory management will help any one to face the future with courage.

Value time

Time is rare resource. Once it is spent, it is lost for ever. It can not be either stored or recovered. Hence,time is the most perishable and most valuable resource too. This resource is continuously spent, whether any decision or action is taken or not.

The history of great reformers and innovators have stressed the importance of time and valuing time. The proverbs, 'Time and tide wait for nobody' and 'Procrastination is the thief of time' amply illustrate this point.

An anecdote to highlight the 'value of time' is as follows: To realize the value of one year, ask the student who has failed in the examinations;. To realize the value of one month, ask the mother who has delivered a premature baby; to realize the value of one week, ask the editor of weekly; to realize the value of one day, ask the daily-wage laborer; to realize now the value of one hour, ask the lovers longing to meet; to realize the value of one minute, ask a person who has missed the train; to realize the value of one second, ask the person who has survived an accident; to realize the value one milli second, ask the person who has won the bronze medal in Olympics; to realize the value of one micro second, ask the NASA team of scientists; to realize the value of one nano-second, ask a Hardware engineer!; If you have still not realized the value of time, wait; are you an Engineer?

Video Content / Details of website for further learning (if any):
https://www.slideshare.net/justinesolano/values-honesty-and-courage-10539187

Important Books/Journals for further learning including the page nos.:

Pofessional Ethics and Human values, New Age International(P) Limited, Publishers by R.S.Nagarazan, Page No :11 -13

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II/III

Course Name with Code   : Professional Ethics and Human Values
                                                19HSS08

Course Teacher   : Mrs.D.G.BeautlinVinola

Unit: I   Human Values   Date of Lecture:

Topic of Lecture : Co-operation ,Commitment

Introduction :
- Co-operation is activity between two persons or sectors that aims at integration of operations (synergy), while not sacrificing the autonomy of either party. Further, working together ensures, coherence, i.e., blending of different skills required,towards common goals.
- Commitment means alignment to goals and adherence to ethical principles during the activities. First of all, one must believe in one's action performed and the expected end results (confidence).

Prerequisite knowledge for Complete understanding and learning of Topic:
- Concepts of getting Co-operated
- Concepts of commitment towards goal

Co-operation ,Commitment

Co-operation
It is a team-spirit present with every individual engaged in engineering. Willingness to understand others, think and act together and putting this into practice, is cooperation.

Cooperation promotes collinearity, coherence (blend), co-ordination (activities linked in sequence or priority) and the synergy (maximizing the output, by reinforcement). The whole is more than the sum of the individuals. It helps in minimizing the input resources (including time) and maximizes the outputs, which include quantity, quality, effectiveness, and efficiency.

According to professional ethics, cooperation should exist or be developed, and maintained, at several levels; between the employers and employees, between the superiors and subordinates, among the colleagues, between the producers and the suppliers (spare parts), and between the organisation and its customers.

The codes of ethics of various professional societies insist on appropriate cooperation to nourish the industry. The absence of cooperation leads to lack of communication, misinformation, void in communication, and undue delay between supply, production, marketing, and consumption. This is likely to demoralize and frustrate the employees, leading to collapse of the industry over time and an economic loss to the society.

The impediments to successful cooperation are:
1. Clash of ego of individuals.
2. Lack of leadership and motivation.
3. Conflicts of interests, based on region, religion, language, and caste.

4. Ignorance and lack of interest. By careful planning, motivation, leadership, fostering and rewarding team work, professionalism and humanism beyond the 'divides', training on appreciation to different cultures, mutual understanding 'cooperation' can be developed and also sustained.

Commitment
Commitment means alignment to goals and adherence to ethical principles during the activities. First of all, one must believe in one's action performed and the expected end results (confidence).

It means one should have the conviction without an iota of doubt that one will succeed. Holding sustained interest and firmness, in whatever ethical means one follows, with the fervent attitude and hope that one will achieve the goals, is commitment.

It is the driving force to realize success. This is a basic requirement for any profession. For example, a design engineer shall exhibit a sense of commitment, to make his product or project designed a beneficial contribution to the society.

Only when the teacher (Guru) is committed to his job, the students will succeed in life and contribute 'good' to the society. The commitment of top management will naturally lead to committed employees, whatever may be their position or emoluments. This is bound to add wealth to oneself, one's employer, society, and the nation at large.

Video Content / Details of website for further learning (if any):

https://www.slideshare.net/gcheliotis/cooperation-3356143
https://www.slideshare.net/syedimtiazhussain/commitment-31247050

Important Books/Journals for further learning including the page nos.:

Pofessional Ethics and Human values, New Age International(P) Limited, Publishers by R.S.Nagarazan, Page No :13 -14

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LECTURE HANDOUTS

BME

II/III

Course Name with Code   : **Professional Ethics and Human Values 19HSS08**

Course Teacher   : **Mrs.D.G.BeautlinVinola**

Unit: I Human Values   Date of Lecture:

Topic of Lecture: Empathy,Self-confidence

Introduction :
- Empathy is social radar. Sensing what others feel about, without their open talk, is the essence of empathy. Empathy begins with showing concern, and then obtaining and understanding the feelings of others, from others' point of view.
- Self-confidence is positive attitude, wherein the individual has some positive and realistic view of himself, with respect to the situations in which one gets involved.

Prerequisite knowledge for Complete understanding and learning of Topic:
- Concepts of Empathy
- Concepts of self confidence

Empathy,Self-confidence

Empathy

Empathy is social radar. Sensing what others feel about, without their open talk, is the essence of empathy. Empathy begins with showing concern, and then obtaining and understanding the feelings of others, from others' point of view.

It is also defined as the ability to put one's self into the psychological frame or reference or point of view of another, to know what the other person feels. It includes the imaginative projection into other's feelings and understanding of other's background such as parentage,physical and mental state, economic situation, and association. This is an essential ingredient for good human relations and transactions.

To practice 'Empathy', a leader must have or develop in him, the following characteristics

1. Understanding others: It means sensing others feelings and perspectives, and taking active interest in their welfare.

2. Service orientation: It is anticipation, recognition and meeting the needs of the clients or customers.

3. Developing others: This means identification of their needs and bolstering their abilities. In developing others, the one should inculcate in him the 'listening skill' first.Communication = 22%

reading and writing + 23% speaking + 55% listening.One should get the feed back, acknowledge the strength and accomplishments, and thencoach the individual, by informing about what was wrong, and giving correct feedback and positive expectation of the subject's abilities and the resulting performance.

4. Leveraging diversity (opportunities through diverse people): This leads to enhanced organizational learning, flexibility, and profitability.

5. Political awareness: It is the ability to read political and social currents in an organization.The benefits of empathy include:
1. Good customer relations (in sales and service, in partnering).
2. Harmonious labor relations (in manufacturing).
3. Good vendor-producer relationship (in partnering.) Through the above three, we can maximize the output and profit, as well as minimizing the loss. While dealing with customer complaints, empathy is very effective in realising the unbiased views of others and in admitting one's own limitations and failures. According to Peter Drucker, purpose of the business is not to make a sale, but to make and keep a customer. Empathy assists one in developing courage leading to success!

Self-confidence
Certainty in one's own capabilities, values, and goals, is self-confidence. These people are usually positive thinking, flexible and willing to change. They respect others so much as they respect themselves.

Self-confidence is positive attitude, wherein the individual has some positive and realistic view of himself, with respect to the situations in which one gets involved. The people with self-confidence exhibit courage to get into action and unshakable faith in their abilities, whatever may be their positions.

They are not influenced by threats or challenges and are prepared to face them and the natural or unexpected consequences.
The self-confidence in a person develops a sense of partnership, respect, and accountability, and this helps the organization to obtain maximum ideas, efforts, and guidelines from its employees. The people with self-confidence have the following characteristics:
1. A self-assured standing,
2. Willing to listen to learn from others and adopt (flexibility),
3. Frank to speak the truth, and
4. respect others' efforts and give due credit.

On the contrary, some leaders expose others when failure occurs, and own the credit when success comes.
The factors that shape self-confidence in a person are:
1. Heredity (attitudes of parents) and family environment (elders),
2. Friendship (influence of friends/colleagues),
3. Influence of superiors/role models, and
4. Training in the organization (e.g., training by Technical Evangelists at Infosys Technologies).

The following methodologies are effective in developing self-confidence in a person:
1. Encouraging SWOT analysis. By evaluating their strength and weakness, they can anticipate and be prepared to face the results.
2. Training to evaluate risks and face them (self-acceptance).
3. Self-talk . It is conditioning the mind for preparing the self to act, without any doubt on his capabilities. This make one accepts himself while still striving for improvement.
4. Study and group discussion, on the history of leaders and innovators (e.g., Sam Walton of Wal-Mart, USA).

Video Content / Details of website for further learning (if any):

https://www.slideshare.net/sarahmonda/self-knowledge-and-empathy

Important Books/Journals for further learning including the page nos.:

Pofessional Ethics and Human values, New Age International(P) Limited, Publishers by R.S.Nagarazan, Page No :14 -16

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II/III

Course Name with Code   : **Professional Ethics and Human Values**
                                    19HSS08

Course Teacher   : **Mrs.D.G.BeautlinVinola**

Unit: I   Human Values   **Date of Lecture:**

Topic of Lecture: Spirituality,Character

Introduction :
- Spirituality is a way of living that emphasizes the constant awareness and recognition of the spiritual dimension (mind and its development) of nature and people, with a dynamic balance between the material development and the spiritual development.

Prerequisite knowledge for Complete understanding and learning of Topic:
- Concepts of spirituality
- Concepts of awareness

Spirituality,Character

Spirituality is a way of living that emphasizes the constant awareness and recognition of the spiritual dimension (mind and its development) of nature and people, with a dynamic balance between the material development and the spiritual development.

This is said to be the great virtue of Indian philosophy and for Indians. Sometimes, spirituality includes the faith or belief in supernatural power/God, regarding the worldly events. It functions as a fertilizer for the soil 'character' to blossom into values and morals.

Spirituality includes creativity, communication, recognition of the individual as human being (as opposed to a life-less machine), respect to others, acceptance (stop finding faults with colleagues and accept them the way they are), vision (looking beyond the obvious and not believing anyone blindly), and partnership (not being too authoritative, and always sharing responsibility with others, for better returns).

Spirituality is motivation as it encourages the colleagues to perform better. Remember, lack of motivation leads to isolation. Spirituality is also energy: Be energetic and flexible to adapt to challenging and changing situations. Spirituality is flexibility as well. One should not be too dominating.

Make space for everyone and learn to recognize and accept people the way they are. Variety is the order of the day. But one can influence their mind to think and act together. Spirituality is also fun. Working is okay, but you also need to have fun in office to keep yourself charged up. Tolerance and empathy are
the reflections of spirituality. Blue and saffron colors are said to be associated with spirituality.

Creativity in spirituality means conscious efforts to see things differently, to break out of habits and outdated beliefs to find new ways of thinking, doing and being. Suppression of creativity leads to violence. People are naturally creative.

When they are forced to crush their creativity, its energy turns to destructive release and actions. Creativity includes the use of color, humor and freedom to enhance productivity. Creativity is fun. When people enjoy what they do, it is involvement. They work much harder.

Spirituality in the Workplace
Building spirituality in the workplace: Spirituality is promoted in the workplace by adhering to the following activities:
1. Verbally respect the individuals as humans and recognize their values in all decisions and Actions
2. Get to know the people with whom you work and know what is important to them. Know their goals, desires, and dreams too.
3. State your personal ethics and your beliefs clearly.
4. Support causes outside the business.
5. Encourage leaders to use value-based discretion in making decisions.
6. Demonstrate your own self-knowledge and spirituality in all your actions.
7. Do unto others as you would have them do unto you

Sprituality for Corporate Excellence
The spiritual traits to be developed for excellence in corporate activities are listed as follows:
1. Self-awareness — Realization of self-potential. A human has immense capability but it needs to be developed.
2. Alertness in observation and quickness in decision making, i.e., spontaneity which includes quick reflexes, no delay but also no hasty decisions.
3. Being visionary and value based — This includes an attitude towards future of the organization and the society, with clear objectives.
4. Holism — Whole system or comprehensive views and interconnected with different aspects.Holistic thinking, which means the welfare of the self, family, organization and the society including all other living beings and environment.
5. Compassion — Sympathy, empathy and concern for others. These are essential for not only building the team but also for its effective functioning.
6. Respect for diversity — It means search for unity in diversity i.e., respect others and their views.
7. Moral Autonomy — It means action based on rational and moral judgment. One need not follow the crowd or majority i.e., band-wagon effect.
8. Creative thinking and constant reasoning — Think if we can do something new and if we can improve further?
9. Ability to analyze and synthesize — Refrain from doing something only traditional.
10. Positive views of adversity — Make adversities one's source of power—a typical Karma yogi's outlook! Every threat is converted into opportunity.
11. Humility — The attitude to accept criticism (it requires courage!) and willing to correct. It includes modesty and acknowledging the work of colleagues.
12. Sense of vocation — Treat the duty as a service to society, besides your organization

Video Content / Details of website for further learning (if any):

https://www.slideshare.net/jeena.aejy/spirituality-presentation

Important Books/Journals for further learning including the page nos.:

Pofessional Ethics and Human values, New Age International(P) Limited, Publishers by R.S.Nagarazan, Page No :20 -21

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LECTURE HANDOUTS

BME

II/III

Course Name with Code : Professional Ethics and Human Values
19HSS08

Course Teacher : Mrs.D.G.BeautlinVinola

Unit -1 Engineering Ethics   **Date of Lecture:**

Topic of Lecture: The History of Ethics-Purposes for Engineering Ethics

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Introduction :
- Ethics of the workplace which involves the co-workers and employees in an organization.
- Ethics related to the product or work which involves the transportation, warehousing, anduse, besides the safety of the end product and the environment outside the factory

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Prerequisite knowledge for Complete understanding and learning of Topic:
- Purpose of Engineering Ethics
- Concepts of safety

The History of Ethics-Purposes for Engineering Ethics

Engineering Ethics is the activity and discipline aimed at
(a) understanding the moral values that ought to guide engineering profession or practice,
(b) resolving moral issues in engineering, and
(c) justifying the moral judgments in engineering. It deals with set of moral problems and issues connected with engineering.

Engineering ethics is defined by the codes and standards of conduct endorsed by engineering (professional) societies with respect to the particular set of beliefs, attitudes and habits displayed by the individual or group.

Another important goal of engineering ethics is the discovery of the set of justified moral principles of obligation, rights and ideals that ought to be endorsed by the engineers and apply them to concrete situations. Engineering is the largest profession and the decisions and actions of engineers affect all of us in almost all areas of our lives, namely public safety, health, and welfare

Scope
The scope of engineering ethics are twofold:

1. Ethics of the workplace which involves the co-workers and employees in an organization.
2. Ethics related to the product or work which involves the transportation, warehousing, and use, besides the safety of the end product and the environment outside the factory

Approach

There are conventionally two approaches in the study of ethics:

1. Micro-ethics which deals with decisions and problems of individuals, professionals, and companies.
2. Macro-ethics which deals with the societal problems on a regional/national level. For example, global issues, collective responsibilities of groups such as professional societies and consumer groups.

Video Content / Details of website for further learning (if any):

https://www.slideshare.net/DonWLewis/engineering-ethics-64969631

Important Books/Journals for further learning including the page nos.:

Pofessional Ethics and Human values, New Age International(P) Limited, Publishers by R.S.Nagarazan, Page No :22

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II/III

Course Name with Code   : Professional Ethics and Human Values
                                          19HSS08

Course Teacher   : Mrs.D.G.BeautlinVinola

Unit:II Engineering Ethics   Date of Lecture:

Topic of Lecture: Engineering Ethics

Introduction :
- Accordingly, the services provided by engineers require honesty, impartiality, fairness, and equity, and must be dedicated to the protection of the public health, safety, and welfare.
- Engineers must perform under a standard of professional behavior that requires adherence to the highest principles of ethical conduct.

Prerequisite knowledge for Complete understanding and learning of Topic:
- Concepts of Ethics in Engineering
- Concepts of public health

Engineering Ethics

There are two different senses (meanings) of engineering ethics, namely the Normative and the Descriptive senses. The normative sense include:

(*a*) Knowing moral values, finding accurate solutions to moral problems and justifying moral judgments in engineering practices

(*b*) Study of decisions, policies, and values that are morally desirable in the engineering practice and research, and

(*c*) Using codes of ethics and standards and applying them in their transactions by engineers. The descriptive sense refers to what specific individual or group of engineers believe and act, without justifying their beliefs or actions.

 VARIETY OF MORAL ISSUES

It would be relevant to know why and how do moral issues (problems) arise in a profession or why do people behave unethically? The reasons for people including the employer and employees, behaving unethically may be classified into three categories:

1. Resource Crunch

Due to pressure, through time limits, availability of money or budgetary constraints, and technology decay or obsolescence. Pressure from the government to complete the project in time (e.g., before the elections), reduction in the budget because of sudden war or natural calamity (e.g., Tsunami) and obsolescence due technology innovation by the competitor lead to manipulation and unsafe and unethical execution of projects.

Involving individuals in the development of goals and values and developing policies that allow for individual diversity, dissent, and input to decision-making will prevent unethical results.

2. Opportunity

(*a*) Double standards or behavior of the employers towards the employees and the public. The unethical behaviors of World Com (in USA), Enron (in USA as well as India) executives in 2002 resulted in bankruptcy for those companies

(*b*) Management projecting their own interests more than that of their employees. Some organizations over-emphasize short-term gains and results at the expense of themselves and others

(*c*) Emphasis on results and gains at the expense of the employees, and

(*d*) Management by objectives, without focus on empowerment and improvement of the infrastructure.

This is best encountered by developing policies that allow 'conscience keepers' and whistle blowers and appointing ombudsman, who can work confidentially with people to solve the unethical problems internally.

3. Attitude

Poor attitude of the employees set in due to
(a) Low morale of the employees because of dissatisfaction and downsizing,
(b) Absence of grievance redressal mechanism,
(c) Lack of promotion or career development policies or denied promotions,
(d) Lack of transparency,
(e) Absence of recognition and reward system, and
(f) Poor working environments.

Giving ethics training for all, recognizing ethical conduct in work place, including ethics in performance appraisal, and encouraging open discussion on ethical issues, are some of the directions to promote positive attitudes among the employees.

To get firm and positive effect, ethical standards must be set and adopted by the senior management, with input from all personnel.

Video Content / Details of website for further learning (if any):

https://www.slideshare.net/DonWLewis/engineering-ethics-64969631

Important Books/Journals for further learning including the page nos.:

Pofessional Ethics and Human values, New Age International(P) Limited, Publishers by R.S.Nagarazan, Page No :22

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LECTURE HANDOUTS

BME

II/III

Course Name with Code : **Professional Ethics and Human Values 19HSS08**

Course Teacher **: Mrs.D.G.BeautlinVinola**

Unit: I Engineering Ethics **Date of Lecture:**

Topic of Lecture: Consensus and Controversy –Professional and Professionalism

Introduction :
- Literally, consensus means ‗agreement', and controversy means ‗disagreement'.
- A person who is paid for getting involved in a particular profession in order to earn a living as well as to satisfy the laws of that profession can be understood as a Professional. The definition of a professional is given differently by different experts in the field.

Prerequisite knowledge for Complete understanding and learning of Topic:
- Concepts of agreement
- Concepts about a profession

Consensus and Controversy

Literally, consensus means ‗agreement', and controversy means ‗disagreement'.

When an individual exercise moral autonomy, he may not be able to attain the same results as other people obtain in practicing their moral autonomy. Here there might be some differences in the practical application of moral autonomy. This kind of controversies i.e., disagreements are inevitable.
Since exercising moral autonomy is not as precise and clear-cut as arithmetic, therefore the moral disagreements are natural and common. So in order to allow scope for disagreement, the tolerance is required among individuals with autonomous, reasonable and responsible thinking.

According to the principle of tolerance, the objective of teaching and studying engineering ethics is to discover ways of promoting tolerance in the exercise of moral autonomy by engineers.

Thus the goal of teaching engineering ethics is not merely producing always a unanimous moral conformity; it is about finding the proper ways and means for promoting tolerance in the practical applications of moral autonomy by engineers.

In a way, the goal of courses on engineering ethics and goals of responsible engineering have some similarities. Both situations require the need for some consensus regarding the role of authority.

Professional and Professionalism

Professional

A person who is paid for getting onvolved in a particular profession in order to earn a living as well as

to satisfy the laws of that profession can be understood as a Professional. The definition of a professional is given differently by different experts in the field. Let us see the following definitions −

- "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 restrains are to be imposed by only laws and government regulations and not by personal conscience." − Samuel Florman

- "Engineers are professionals when they attain standards of achievement in education, job performance or creativity in engineering and accept the most basic moral responsibilities to the public as well as employers, clients, colleagues and subordinates." - Mike martin and Ronald Schinzinger

Professionalism

professionalism covers comprehensively all areas of practice of a particular profession. It requires skills and responsibilities involved in engineering profession. Professionalism implies a certain set of attitudes.

The art of Professionalism can be understood as the practice of doing the right thing, not because how one feels but regardless of how one feels. Professionals make a profession of the specific kind of activity and conduct to which they commit themselves and to which they can be expected to conform. Moral ideals specify virtue, i.e., desirable feature of character. Virtues are desirable ways of relating to other individuals, groups and organizations. Virtues involve motives, attitudes and emotions.

According to Aristotle, virtues are the "acquired habits that enable us to engage effectively in rational activities that defines us as human beings."

Professional Ideals and Virtues

The virtues represent excellence in core moral behavior. The essentials for any professional to excel in the profession are behavior, skills and knowledge. The behavior shows the moral ideology of the professional.

The moral ideals specify the virtue, i.e., the desirable character traits that talk a lot about the motives, attitude and emotions of an individual.

- Public spirited virtues
- Proficiency virtues
- Team work virtues
- Self-governance virtues

Video content / Details of website for further learning (if any):

https://journals.sagepub.com/doi/abs/10.1177/026553228400100207?journalCode=ltja

Important Books/Journals for further learning including the page nos.:

Pofessional Ethics and Human values, New Age International(P) Limited, Publishers by R.S.Nagarazan, Page No :29 -30

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LECTURE HANDOUTS

BME

II/III

Course Name with Code : Professional Ethics and Human Values
19HSS08

Course Teacher   : Mrs.D.G.BeautlinVinola

Unit: II Engineering Ethics   **Date of Lecture:**

Topic of Lecture: Professional Roles to be played by an Engineer –Self Interest

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Introduction :
- Professionalism in engineering would be threatened at every turn in a corporation driven with powerful egos.
- Robert Jackall, a Sociologist criticizes professionalism saying, "what is right in the corporation is what the guy above you wants from you. That's what morality is in the corporation".

Prerequisite knowledge for Complete understanding and learning of Topic:
- Concepts of role of an Engineer
- Concepts of professionalism

Professional Roles to be played by an Engineer –Self Interest

Professional Roles to be played by an Engineer

Promotion of public good is the primary concern of the professional engineers. There are several role models to whom the engineers are attracted. These models provoke their thinking, attitudes and actions.

1. Savior
The engineer as a savior, save the society from poverty, illiteracy, wastage, inefficiency, ill health, human (labor) dignity and lead it to prosperity, through technological development and social planning. For example, R.L. Stevenson.

2. Guardian
He guards the interests of the poor and general public. As one who is conversant with technology development, is given the authority befitting his expertise to determine what is best suited to the society. For example, Lawrence of Arabia (an engineer).

3. Bureaucratic Servant
He serves the organization and the employers. The management of an enterprise fixes its goals and assigns the job of problem solving to the engineer, who accepts the challenge and shapes them into

concrete achievements. For example, Jamshedji Tata.

4. Social Servant
It is one who exhibits social responsibility. The engineer translates the interest and aspirations of the society into a reality, remembering that his true master is the society at large. For example, Sir M.Viswesvarayya.

5. Social Enabler and Catalyst
One who changes the society through technology. The engineer must assist the management and the society to understand their needs and make informed decisions on the desirable technological development
and minimize the negative effects of technology on people and their living environment. Thus, he shines as a social enabler and a catalyst for further growth. For example, Sri Sundarlal Bahuguna.

6. Game Player
He is neither a servant nor master. An engineer is an assertive player, not a passive player who may carry out his master's voice. He plays a unique role successfully within the organization, enjoying the excitement of the profession and having the satisfaction of surging ahead in a competitive world. For example, Narayanamurthy, Infosys and Dr. Kasthurirangan.

Self Interest

Self-interest is being good and acceptable to oneself. It is pursuing what is good for oneself. It is very ethical to possess self-interest. As per utilitarian theory, this interest should provide for the respect of others also.

Duty ethics recognizes this aspect as duties to ourselves. Then only one can help others.Right ethicist stresses our rights to pursue our own good. Virtue ethics also accepts the importance of self-respect as link to social practices.

In Ethical Egoism, the self is conceived in a highly individualistic manner. It says that every one of us should always and only promote one's own interest. The ethical egoists do not accept the well being of the community or caring for others.

However this self interest should not degenerate into egoism or selfishness, i.e., maximizing only own good in the pursuit of self-interest. The ethical egoists hold that the society benefits to maximum when
(*a*) the individuals pursue their personal good
 (*b*) the individual organizations pursue maximum profit in a competitive enterprise.

This is claimed to improve the economy of the country as a whole, besides the individuals. In such pursuits, both individuals and organizations should realize that independence is not the only important value.

We are also interdependent, as much as independent. Each of us is vulnerable in the society. Self-respect includes recognition of our vulnerabilities and interdependencies. Hence, it is compatible with caring for ourselves as well as others. Self-interest is necessary initially to begin with.

 But it should be one of the prime motives for action; the other motive is to show concern for others, in the family as well as society. One's self-interest should not harm others. The principles of 'Live and let (others) live', and'reasonably fair competition' are recommended to professionals by the ethicist

Video Content / Details of website for further learning (if any):

Important Books/Journals for further learning including the page nos.:

Pofessional Ethics and Human values, New Age International(P) Limited, Publishers by R.S.Nagarazan, Page No :31

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LECTURE HANDOUTS

BME

II/III

Course Name with Code	: **Professional Ethics and Human Values 19HSS08**
Course Teacher	: **Mrs.D.G.BeautlinVinola**

Unit: II Engineering Ethics   **Date of Lecture:**

Topic of Lecture: Customs and Religion-Uses of Ethical Theories-Professional Ethics

Introduction :
- Religions support moral responsibility. They have set high moral standards. Faith in the religions provides trust and this trust inspires people to be moral.
- The religions insist on tolerance and moral concern for others. Many professionals who possess religious beliefs are motivated to be morally responsible.

Prerequisite knowledge for Complete understanding and learning of Topic:
- Concepts of religions
- Concepts of moral responsibility

Customs and Religion-Uses of Ethical Theories-Professional Ethics
Religion
Religions have played major roles in shaping moral views and moral values, over geographical regions. Christianity has influenced the Western countries, Islam in the Middle-East countries, Buddhism and Hinduism in Asia, and Confucianism in China. Further, there is a strong psychological link between the moral and religious beliefs of people following various religions and faiths.

Religions support moral responsibility. They have set high moral standards. Faith in the religions provides trust and this trust inspires people to be moral. The religions insist on tolerance and moral concern for others.

Many professionals who possess religious beliefs are motivated to be morally responsible.
Each religion lays stress on certain high moral standards. For example, Hinduism holds polytheistic (many gods) view, and virtues of devotion and surrender to high order. Christianity believes in one deity and emphasizes on virtues of Love, Faith, and Hope.

Buddhism is non-theistic and focuses on compassion and Islam on one deity and adherence of ishan (piety or pursuit of excellence) and prayer. Judaism stresses the virtue of 'tsedakah' (righteousness). But many religious sects have adopted poor moral standards, e.g., many religious sects do not recognize equal rights for women.

The right to worship is denied for some people. People are killed in the name of or to promote religion. Thus,conflicts exist between the 'secular' and religious people and between one religion and another. Hence,religious views have to be morally scrutinized.

Customs

Ethical Pluralism: Various cultures in our pluralistic society lead to tolerance for various customs, beliefs, and outlooks. Accordingly ethical pluralism also exists. Although many moral attitudes appear to be reasonable, the rational and morally concerned people can not fully accept any one of the moral perspectives.

There are many varied moral values, which allow variation in the understanding and application of values by the individuals or groups in their everyday transactions. It means that even reasonable people will not agree on all moral issues and professional ethics.

Ethical Relativism: According to this principle, actions are considered morally right when approved by law or custom, and wrong when they violate the laws or customs. The deciding factor is the law or the customs of the society. Should we accept the principle of relativism or not? A few reasons to accept this are explained in the following paragraphs

1. Laws appear to be objective ways for judging values. The laws and customs tend to be definite, clear and real, but not always. Further moral reasons allow objective criticism of laws, as being morally lacking.

For example, the Apartheid laws of South Africa violated the human rights of the native Africans. No legal protection was available for native citizens for a long time. Now, of course, these laws have been repealed.

2. Ethical relativism assumes that the values are subjective at the cultural level. Moral standards also vary from culture to culture. The objectivity is supported by the existing laws of that society. The relative morality accepted, supports the virtue of tolerance of differences among societies.

This argument is also not fully acceptable. As per ethical relativism, the actions and laws of the Nazis and Hitler who vowed on Anti-Semitism and killed several million Jews would be accepted as right.

3. Moral relationalism or moral contextualism: According to this, the moral judgments must be made in relation to certain factors, which may vary from case to case. The morally important factors for making judgments include the customs and laws.

The virtue ethicists hold that the practical wisdom should prevail upon assessing the facts and in the judgment.This principle was accepted by the early anthropologists because they had a specific tendency to over-stress the scope of moral difference between cultures.

The human sacrifices and cannibalism were accepted. But the modern anthropologists insist that all cultures shall exhibit the virtue of social welfare and safety against needless death or physical or mental harm. Moral differences were based on the circumstances and facts and not on the difference in moral attitudes. For example, the pharaohs buried the live attendants along with their dead king with the belief that they would continue to serve the king in his after life.

Uses of Ethical Theories

The ethical theories are useful in many respects.
1. In understanding moral dilemma. They provide clarity, consistency, systematic and comprehensive understanding.
2. It provides helpful practical guidance in moral issues towards the solution.
3. Justifying professional obligations and decisions, and
3. In relating ordinary and professional morality.

Different criteria may be applied for evaluating various ethical theories and deciding upon the best.

1. The theory must be clear and (coherent) formulated with concepts that are logically connected.

2. It must be internally consistent, i.e., none of its principles conflicts with any other
3. The theory and its defense must depend, only upon facts.
4. It must organize basic moral values in systematic and comprehensive manner. It is to fix priority of values and provide guidance in all situations
5. It must provide guidance compatible with our moral convictions (judgments) about concrete situations.

For example, if an ethical theory says that it is all right for engineers to make explosive devices without the informed consent of the public, we can conclude that the theory is inadequate.

Theories and judgments are continually adjusted to each other until we reach a reflective equilibrium. Most of the theories converge towards the welfare of the humanity. The duty ethics and right ethics differ in great extent on their emphasis. But they remain complementary always.

Video Content / Details of website for further learning (if any):

https://www.slideshare.net/drgst/ge6075-professional-ethics-in-engineering-unit-2

Important Books/Journals for further learning including the page nos.:

Pofessional Ethics and Human values, New Age International(P) Limited, Publishers by R.S.Nagarazan, Page No :36,41,42

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LECTURE HANDOUTS

BME

II/III

Course Name with Code   : Professional Ethics and Human Values
                                   19HSS08

Course Teacher   : Mrs.D.G.BeautlinVinola

Unit: II Engineering Ethics   Date of Lecture:

Topic of Lecture: Types of Inquiry

Introduction :
Ethical Inquiry and Practical Wisdom takes ethics to resemble to some extent—namely, to the extent that it has a subject matter that it studies and seeks to understand or explain—those inquiries or investigations that he often views as being well-defined disciplines or sciences

Prerequisite knowledge for Complete understanding and learning of Topic:
- Concepts of Inquiry
- Concepts of Investigation

Types of Inquiry

The three types of inquiries, in solving ethical problems are: normative inquiry, conceptual inquiry, and factual or descriptive inquiry.
The three types of inquiries are discussed below to illustrate the differences and preference.

1. Normative Inquiry
It seeks to identify and justify the morally-desirable norms or standards that should guide individuals and groups. It also has the theoretical goal of justifying particular moral judgments. Normative questions are about what ought to be and what is good, based on moral values. For example,

1. How far does the obligation of engineers to protect public safety extend in any given situation?
2. When, if ever, should engineers be expected to blow whistle on dangerous practices of their employers?
3. Whose values ought to be primary in making judgment about acceptable risks in design for a public transport system or a nuclear plant? Is it of management, senior engineers, government,voters or all of them?
4. When and why is the government justified in interfering with the organisations?
5. What are the reasons on which the engineers show their obligations to their employees or clients or the public?

2. Conceptual Inquiry
It is directed to clarify the meaning of concepts or ideas or principles that are expressed by words or by questions and statements. For example,

(*a*) What is meant by safety?
(*b*) How is it related to risk?
(c) What is a bribe?
(*d*) What is a profession?

3. Factual or Descriptive Inquiry

It is aimed to obtain facts needed for understanding and resolving value issues. Researchers conduct factual inquiries using mathematical or statistical techniques.

 The inquiry provide important information on business realities, engineering practice, and the effectiveness of professional societies in fostering moral conduct, the procedures used in risk assessment, and psychological profiles of engineers.

The facts provide not only the reasons for moral problems but also enable us to develop alterative ways of resolving moral problems. For example,

1. How were the benefits assessed?
2. What are procedures followed in risk assessment?
3. What are short-term and long-term effects of drinking water being polluted? and
4. Who conducted the tests on materials?

Video Content / Details of website for further learning (if any):

http://www.brainkart.com/article/Engineering-Experiments-With-Standard-Experiments_11642/

Important Books/Journals for further learning including the page nos.:

Pofessional Ethics and Human values, New Age International(P) Limited, Publishers by R.S.Nagarazan, Page No: 24,25

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BME

II/III

Course Name with Code : **Professional Ethics and Human Values 19HSS08**

Course Teacher : **Mrs.D.G.BeautlinVinola**

Unit: II Engineering Ethics   **Date of Lecture:**

Topic of Lecture : Engineering and Ethics-Kohlberg's Theory

Introduction :
- Knowing moral values, finding accurate solutions to moral problems and justifying moral judgments in engineering practices,
- Study of decisions, policies, and values that are morally desirable in the engineering practice and research, and Using codes of ethics and standards and applying them in their transactions by engineers.
- The descriptive sense refers to what specific individual or group of engineers believe and act, without justifying their beliefs or actions.

Prerequisite knowledge for Complete understanding and learning of Topic:
- Concepts of moral values
- Concepts of decision making

Engineering and Ethics-Kohlberg's Theory

Engineering and Ethics
Engineering Ethics is the activity and discipline aimed at
(*a*) understanding the moral values that ought to guide engineering profession or practice,
(*b*) resolving moral issues in engineering, and
(*c*) justifying the moral judgments in engineering. It deals with set of moral problems and issues connected with engineering.

Engineering ethics is defined by the codes and standards of conduct endorsed by engineering (professional) societies with respect to the particular set of beliefs, attitudes and habits displayed by the individual or group.

Another important goal of engineering ethics is the discovery of the set of justified moral principles of obligation, rights and ideals that ought to be endorsed by the engineers and apply them to concrete situations. Engineering is the largest profession and the decisions and actions of engineers affect all of us in almost all areas of our lives, namely public safety, health, and welfare.

Kohlberg Theory

Moral development in human being occurs overage and experience. Kohlberg suggested there are three levels of moral development, namely pre-conventional, conventional, and post-conventional, based on the type of reasoning and motivation of the individuals in response to moral questions.

In the pre-conventional level, right conduct for an individual is regarded as whatever directly benefits oneself. At this level, individuals are motivated by obedience or the desire to avoid punishment or to satisfy their own needs or by the influence by power on them.

All young children exhibit this tendency. At the conventional level, people respect the law and authority. Rules and norms of one's family or group or society is accepted, as the standard of morality.

Individuals in this level want to please or satisfy, and get approval by others and to meet the expectations of the society, rather than their self interest (e.g., good boy, good girl).

Loyalty is regarded as most important. Many adults donot go beyond this level.At the post conventional level, people are called autonomous. They think originally and want to live by universally good principles and welfare of others.

They have no self-interest. They live by principled conscience. They follow the golden rule, 'Do unto others as you would have them do unto you'. They maintain moral integrity, self-respect and respect for others.

Kohlberg believed that individuals could only progress through these stages, one stage at a time.He believed that most of the moral development occurs through social interactions

Video Content / Details of website for further learning (if any):

https://www.britannica.com/science/Lawrence-Kohlbergs-stages-of-moral-development

Important Books/Journals for further learning including the page nos.:

Pofessional Ethics and Human values, New Age International(P) Limited, Publishers by R.S.Nagarazan, Page No: 27

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LECTURE HANDOUTS

BME

II/III

Course Name with Code   : **Professional Ethics and Human Values**
    19HSS08

Course Teacher   : **Mrs.D.G.BeautlinVinola**

Unit: II Engineering Ethics   Date of Lecture:

Topic of Lecture: Gilligan's Argument

Introduction :
- Carol Gilligan, a psychological theorist was born on Nov 28, 1936 in the New York city. She pursued her doctorate degree in Social Psychology from the Harvard University.
- Gilligan was a research assistant for Lawrence Kohlberg, but she eventually became independent and criticized some of his theories.

Prerequisite knowledge for Complete understanding and learning of Topic:
- Concepts of psychology
- Concepts of Relationship

Gilligan's Argument

Carol Gilligan found that Kohlberg's theory had a strong male bias. According to Gilligan's studies, men had a tendency to solve problems by applying abstract moral principles. Men were found to resolve moral dilemma by choosing the most important moral rule, overriding other rules.

In contrast,women gave importance to preserve personal relationships with all the people involved. The context oriented emphasis on maintaining personal relationships was called the ethics of care, in contrast with the ethics of rules and rights adopted by men.

Gilligan revised the three levels of moral development of Kohlberg, as stages of growth towards ethics of caring. The pre-conventional level, which is same as that of Kohlberg's first one, right conduct, is viewed in a selfish manner solely as what is good for oneself.

The second level called conventional level, the importance is on not hurting others, and willing to sacrifice one's own interest and help others. This is the characteristic feature of women. At the post-conventional level, a reasoned balance is found between caring about others and pursuing the self-interest.

The balance one's own need and the needs of others, is aimed while maintaining relationship based on mutual caring. This is achieved by context-oriented reasoning, rather than by hierarchy of rules.

1. Is based on the study on men and women
2. Women always want to keep up the
3. Women give attention to circumstances

leading to critical situations rather than rules:
The difference in these two theories is explained through the well-known example, Heinz's dilemma. Heinz being poor and a debtor could not buy the costly medicine for his sick wife, at ten times the normal cost.

Initially he begged the Pharmacist to sell at half the price or allow him to pay for it later. Pharmacist refused to oblige him either way. Finally he forcibly entered the Pharmacy and stole the drug.

According to Kohlberg study, men observed that the theft was morally 'wrong' at the conventional level, because the property right was violated. But men at the post-conventional level, concluded that the theft was 'right', as the life of the human being was in danger.

But women observed that Heinz was wrong. They observed that instead of stealing he could have tried other solutions (threatening or payment in installments) to convince the Pharmacist. Gilligan however attributed the decision by women as context-oriented and not on the basis of rules ranked in the order of priority.

Video Content / Details of website for further learning (if any):
https://www.tutorialspoint.com/engineering_ethics/engineering_ethics_gilligans_theory.htm

Important Books/Journals for further learning including the page nos.:

Pofessional Ethics and Human values, New Age International(P) Limited, Publishers by R.S.Nagarazan, Page No: 27 -28

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II/III

Course Name with Code : **Professional Ethics and Human Values 19HSS08**

Course Teacher : **Mrs.D.G.BeautlinVinola**

Unit: II Engineering Ethics   Date of Lecture:

Topic of Lecture: Heinz's Dilemma

Introduction :
Dilemmas are situations in which moral reasons come into conflict, or in which the application of moral values are problems, and one is not clear of the immediate choice or solution of the problems. Moral reasons could be rights, duties, goods or obligations.

Prerequisite knowledge for Complete understanding and learning of Topic:
- Concepts of Dilemma
- Concepts of rights and duties

MORAL DILEMMA

These situations do not mean that things had gone wrong, but they only indicate the presence of moral complexity. This makes the decision making complex. For example, a person promised to meet a friend and dine, but he has to help his uncle who is involved in an accident — one has to fix the priority.

There are some difficulties in arriving at the solution to the problems, in dilemma. The three complex situations leading to moral dilemmas are:

1. The problem of vagueness: One is unable to distinguish between good and bad (right or wrong) principle. Good means an action that is obligatory.

 For example, code of ethics specifies that one should obey the laws and follow standards. Refuse bribe or accept the gift and maintain confidentiality

2. The problem of conflicting reasons: One is unable to choose between two good moral solutions.One has to fix priority, through knowledge or value system.

3. The problem of disagreement: There may be two or more solutions and none of the mandatory. These solutions may be better or worse in some respects but not in all aspects.One has to interpret, apply different morally reasons, and analyze and rank the decisions.Select the best suitable, under the existing and the most probable conditions.

Steps to Solve Dilemma

The logical steps in confronting moral dilemma are:

1. Identification of the moral factors and reasons. The clarity to identify the relevant moral values from among duties, rights, goods and obligations is obtained (conceptual inquiry).

The most useful resource in identifying dilemmas in engineering is the professional codes of ethics, as interpreted by the professional experience. Another resource is talking with colleagues who can focus or narrow down the choice of values.

2. Collection of all information, data, and facts (factual inquiry) relevant to the situation.

3. Rank the moral options i.e., priority in application through value system, and also as obligatory, all right, acceptable, not acceptable, damaging, and most damaging etc.

For example, in fulfilling responsibility, the codes give prime importance to public safety and protection of the environment, as compared to the individuals or the employers (conceptual inquiry).

4. Generate alternate courses of action to resolve the dilemma. Write down the main options and sub-options as a matrix or decision tree to ensure that all options are included.

5. Discuss with colleagues and obtain their perspectives, priorities, and suggestions on various alternatives.

6. Decide upon a final course of action, based on priority fixed or assumed. If there is no ideal solution, we arrive at a partially satisfactory or 'satisficing' solution.

Video Content / Details of website for further learning (if any):

https://www.tutorialspoint.com/what-is-the-concept-of-heinz-s-dilemma-in-kohlberg-s-theory

Important Books/Journals for further learning including the page nos.:

Pofessional Ethics and Human values, New Age International(P) Limited, Publishers by R.S.Nagarazan, Page No: 25 -26

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LECTURE HANDOUTS

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II/III

Course Name with Code : **Professional Ethics and Human Values 19HSS08**

Course Teacher : **Mrs.D.G.BeautlinVinola**

Unit –III Engineering as Social Experimentation   **Date of Lecture:**

Topic of Lecture: Comparison with Standard Experiments

Introduction :
Before manufacturing a product or providing a project, we make several assumptions and trials, design and redesign and test several times till the product is observed to be functioning satisfactorily. We try different materials and experiments

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Prerequisite knowledge for Complete understanding and learning of Topic:
- Concept of Engineering experiments
- Concepts of continuous monitoring

Comparison with Standard Experiments

We shall now compare the two activities, and identify the similarities and contrasts.

A. Similarities

1. Partial ignorance: The project is usually executed in partial ignorance. Uncertainties exist in the model assumed. The behavior of materials purchased is uncertain and not constant (that is certain!).

They may vary with the suppliers, processed lot, time, and the process used in shaping the materials (e.g., sheet or plate, rod or wire, forged or cast or welded). There may be variations in the grain structure and its resulting failure stress.

2. Uncertainty: The final outcomes of projects are also uncertain, as in experiments. Sometimes unintended results, side effects (bye-products), and unsafe operation have also occurred.

3. Continuous monitoring: Monitoring continually the progress and gaining new knowledge are needed before, during, and after execution of project as in the case of experimentation.

4. Learning from the past: Engineers normally learn from their own prior designs and infer from the analysis of operation and results, and sometimes from the reports of other engineers. But this does not happen frequently.

The absence of interest and channels of communication,ego in not seeking information, guilty upon the failure, fear of legal actions, and mere negligence have caused many a failure, e.g., the Titanic lacked sufficient number of life boats—it had only 825 boats for the actual passengers of 2227, the capacity of the ship being 3547! In the emergent situation, all the existing life boats could not be launched.

Forty years back, another steamship Arctic met with same tragedy due to the same problem in the same

region. But the lesson was learned. In most of the hydraulic systems, valves had been the critical components that are least reliable. The confusion on knowing whether the valve was open or closed, was the cause of the Three-Mile Island accident in 1979.

Similar malfunctioning of valves and mis-reading of gauges have been reported to have caused the accidents else where in some power plants. But we have not learnt the lesson from the past. The complacency that it will not happen again and will not happen 'to me' has lead to many disasters.

Contrasts

The scientific experiments in the laboratory and the engineering experiments in the filed exhibit several contrasts as listed below:

1. Experimental control: In standard experiments, members for study are selected into two groups namely A and B at random. Group A are given special treatment. The group B is given no treatment and is called the 'controlled group'. But they are placed in the same environment as the other group A.

This process is called the experimental control. This practice is adopted in the field of medicine. In engineering, this does not happen, except when the project is confined to laboratory experiments.

This is because it is the clients or consumers who choose the product,exercise the control. It is not possible to make a random selection of participants from various groups. In engineering, through random sampling, the survey is made from among the users, to assess the results on the product.

2. Humane touch: Engineering experiments involve human souls, their needs, views, expectations, and creative use as in case of social experimentation. This point of view is not agreed by many of the engineers. But now the quality engineers and managers have fully realized this humane aspect.

3. Informed consent: Engineering experimentation is viewed as Societal Experiment since the subject and the beneficiary are human beings. In this respect, it is similar to medical experimentation on human beings.

In the case of medical practice, moral and legal rightshave been recognized while planning for experimentation. Informed consent is practiced in medical experimentation. Such a practice is not there in scientific laboratory experiments.

Informed consent has two basic elements:
1. Knowledge: The subject should be given all relevant information needed to make the decision to participate.
2. Voluntariness: Subject should take part without force, fraud or deception. Respect for rights of minorities to dissent and compensation for harmful effect are assumed here.
For a valid consent, the following conditions are to be fulfilled:
1. Consent must be voluntary
2. All relevant information shall be presented/stated in a clearly understandable form
3. Consenter shall be capable of processing the information and make rational decisions.
4. The subject's consent may be offered in proxy by a group that represents many subjects of like-interests

Informed consent when bringing an engineering product to market, implies letting the customer know the following:
 (a) the knowledge about the product
(b) risks and benefits of using the product
(c) all relevant information on the product, such as how to use and how not to use (do's and don'ts).

The relevant factual information implies, that the engineers are obliged to obtain and assess all the available information related to the fulfillment of one's moral obligations (i.e., wrong or immoral use

of a product one designs), including the intended and unintended impacts of the product, on the society. Still there exists a possibility of a large gap of understanding between the experimenter and the subjects (public). Sometimes,the managements have not been willing to disseminate the full information about the project or product beyond the legal requirements, because of the fear of potential competitions and likely exposure to potential litigation.

People object to involuntary risks wherein the affected individual is neither a direct participant nor a decision maker. In short, we prefer to be the subjects of our own experiments rather than those of somebody else. If it is an asbestos plant or nuclear plant to be approved,affected parties expect their consent to be obtained.

 But they are ready to accept voluntary risks as in the case of stunts and amazing races.In case of Koodangulam power project as well as the Sethusamudram Canal Project, TamilNadu, several citizen groups including Fishermen Forums have responded. The Central government was able contain many harsh apprehensions and protracted legal and political battles, by providing all relevant information

Video Content / Details of website for further learning (if any):

http://www.brainkart.com/article/Engineering-Experiments-With-Standard-Experiments_11642/

Important Books/Journals for further learning including the page nos.:

Pofessional Ethics and Human values, New Age International(P) Limited, Publishers by R.S.Nagarazan, Page No :46 -48

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LECTURE HANDOUTS

BME

II/III

Course Name with Code : **Professional Ethics and Human Values 19HSS08**

Course Teacher : **Mrs.D.G.BeautlinVinola**

Unit:II Engineering as Social Experimentation   **Date of Lecture:**

Topic of Lecture: Knowledge gained

Introduction :
- Although the engineers facilitate experiments, they are not alone in the field. Their responsibility is shared with the organizations, people, government, and others.
- No doubt the engineers share a greater responsibility while monitoring the projects, identifying the risks, and informing the clients and the public with facts. Based on this, they can take decisions to participate or protest or promote.

Prerequisite knowledge for Complete understanding and learning of Topic:
- Concept of basics of knowledge
- Concept of decision making

Knowledge gained

Not much of new knowledge is developed in engineering experiments as in the case of scientific experiments in the laboratory.

Engineering experiments at the most help us to
(a) verify the adequacy of the design
(b) to check the stability of the design parameters
(c) prepare for the unexpected outcomes, in the actual field environments.

From the models tested in the laboratory to the pilot plant tested in the field, there are differences in performance as well as other outcomes

Informed consent when bringing an engineering product to market, implies letting the customer know the following:
 (a) the knowledge about the product
 (b) risks and benefits of using the product
 (c) all relevant information on the product, such as how to use and how not to use (do's and don'ts).

The relevant factual information implies, that the engineers are obliged to obtain and assess all the available information related to the fulfillment of one's moral obligations (i.e., wrong or immoral use

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If it is an asbestos plant or nuclear plant to be approved,affected parties expect their consent to be obtained. But they are ready to accept voluntary risks as in the case of stunts and amazing races.

In case of Koodangulam power project as well as the Sethusamudram Canal Project, TamilNadu, several citizen groups including Fishermen Forums have responded. The Central government was able contain many harsh apprehensions and protracted legal and political battles, by providing all relevant information.

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LECTURE HANDOUTS

BME

II/III

Course Name with Code : Professional Ethics and Human Values 19HSS08

Course Teacher   : Mrs.D.G.BeautlinVinola

Unit: I Engineering as social experimentation   **Date of Lecture:**

Topic of Lecture: Conscientiousness

Introduction :
- Although the engineers facilitate experiments, they are not alone in the field. Their responsibility is shared with the organizations, people, government, and others.
- No doubt the engineers share a greater responsibility while monitoring the projects, identifying the risks, and informing the clients and the public with facts. Based on this, they can take decisions to participate or protest or promote

Prerequisite knowledge for Complete understanding and learning of Topic:
- Concept of awareness
- Concept of prevailing situations

Conscientiousness

The engineer, as an experimenter, owe several responsibilities to the society, namely,
1. A conscientious commitment to live by moral values.
2. A comprehensive perspective on relevant information. It includes constant awareness of the progress of the experiment and readiness to monitor the side effects, if any.
3. Unrestricted free-personal involvement in all steps of the project/product development (autonomy).
4. Be accountable for the results of the project (accountability).

Conscientious moral commitment means:
(a) Being sensitive to full range of moral values and responsibilities relevant to the prevailing situation
(b) The willingness to develop the skill and put efforts needed to reach the best balance possible among those considerations.

 In short, engineers must possess open eyes, open ears, and an open mind (i.e., moral vision, moral listening, and moral reasoning).

This makes the engineers as social experimenters, respect foremost the safety and health of the affected, while they seek to enrich their knowledge, rush for the profit, follow the rules, or care for only the beneficiary.

The human rights of the participant should be protected through voluntary and informed consent.

Comprehensive Perspective

The engineer should grasp the context of his work and ensure that the work involved results in only moral ends.

One should not ignore his conscience, if the product or project that he is involved will result in damaging the nervous system of the people (or even the enemy, in case of weapon development)

A product has a built-in obsolete or redundant component to boost sales with a false claim. In possessing of the perspective of factual information, the engineer should exhibit a moral concern and not agree for this design. Sometimes, the guilt is transferred to the government or the competitors.

Some organizations think that they will let the government find the fault or let the fraudulent competitor be caught first. Finally, a full-scale environmental or social impact study of the product or project by individual engineers is useful but not possible, in practice.

Video content / Details of website for further learning (if any):

https://www.psychologytoday.com/intl/basics/conscientiousness

Important Books/Journals for further learning including the page nos.:

Pofessional Ethics and Human values, New Age International(P) Limited, Publishers by R.S.Nagarazan, Page No :48 -49

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LECTURE HANDOUTS

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II/III

Course Name with Code : **Professional Ethics and Human Values 19HSS08**

Course Teacher : **Mrs.D.G.BeautlinVinola**

Unit: II Engineering as Social Experimentation   **Date of Lecture:**

Topic of Lecture: Relevant Information

Introduction :
- Without factual information ,conscientiousness is not possible.
- To understand and grasp the circumstances of persons work , it is necessary to know how that work has a moral importance.
- Blurring the circumstance of a persons work derived from his specialization and put the responsibilities in some one else work.
- Encourage the engineers to view his specialized activities in a project as a part of large social impact.

Prerequisite knowledge for Complete understanding and learning of Topic:
- Knowledge about factual information
- Knowledge to understand and grasp

Relevant Information

Moral/Normative Issues

1. The crew had no escape mechanism. Douglas, the engineer, designed an abort module to allow the separation of the orbiter, triggered by a field-joint leak. But such a 'safe exit' was rejected as too expensive, and because of an accompanying reduction in payload.

2. The crew were not informed of the problems existing in the field joints. The principle of informed consent was not followed.

3. Engineers gave warning signals on safety. But the management group prevailed over and ignored the warning.

Conceptual Issues

1. NASA counted that the probability of failure of the craft was one in one lakh launches. But it was expected that only the 100000th launch will fail.

2. There were 700 criticality-1 items, which included the field joints. A failure in any one of them would have caused the tragedy. No back-up or stand-bye had been provided for these criticality-1 components.

Factual/Descriptive Issues

1. Field joints gave way in earlier flights. But the authorities felt the risk is not high.

2. NASA has disregarded warnings about the bad weather, at the time of launch, because they wanted to complete the project, prove their supremacy, get the funding from Government continued and get an applaud from the President of USA.

3. The inability of the Rockwell Engineers (manufacturer) to prove that the lift-off was unsafe. This was interpreted by the NASA, as an approval by Rockwell to launch.

Video Content / Details of website for further learning (if any):

https://ethics.iit.edu/teaching/professional-ethics

Important Books/Journals for further learning including the page nos.:

Pofessional Ethics and Human values, New Age International(P) Limited, Publishers by R.S.Nagarazan, Page No :54

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L23

| LECTURE HANDOUTS |

| **BME** | **II/III** |

Course Name with Code   : Professional Ethics and Human Values
19HSS08

Course Teacher   : Mrs.D.G.BeautlinVinola

Unit: II Engineering as social experimentation   **Date of Lecture:**

Topic of Lecture: Learning from the Past

Introduction :
- Engineers have to learn not only from their own design but also the result of others
- Due to lack of communication, prejudice, fear of law ,mere negligence continuation of past mistakes can happen

Prerequisite knowledge for Complete understanding and learning of Topic:
- Knowledge of experiences from past
- Knowledge in communication

Learning from the Past

Engineers have to learn not only from their own design but also the result of others.Due to lack of communication, prejudice, fear of law ,mere negligence continuation of past mistakes can happen

Engineers normally learn from their own prior designs and infer from the analysis of operation and results, and sometimes from the reports of other engineers.But this does not happen frequently.

The absence of interest and channels of communication,ego in not seeking information, guilty upon the failure, fear of legal actions, and mere negligence have caused many a failure,e.g., the Titanic lacked sufficient number of life boats—it had only 825 boats for the actual passengers of 2227, the capacity of the ship being 3547! In the emergent situation, all the existing life boats could not be launched.

Forty years back, another steamship Arctic met with same tragedy due to the same problem in the same region. But the lesson was learned.

In most of the hydraulic systems, valves had been the critical components that are least reliable. The confusion on knowing whether the valve was open or closed, was the cause of the Three-Mile Island accident in 1979.

Similar malfunctioning of valves and mis-reading of gauges have been reported to have caused the accidents else where in some power plants.

But we have not learnt the lesson from the past.The complacency that it will not happen again and will not happen 'to me' has lead to many disasters.

Video Content / Details of website for further learning (if any):

https://www.skillsyouneed.com/ps/professional-ethics.html

Important Books/Journals for further learning including the page nos.:

Pofessional Ethics and Human values, New Age International(P) Limited, Publishers by R.S.Nagarazan, Page No :46

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LECTURE HANDOUTS

BME

II/III

Course Name with Code : **Professional Ethics and Human Values**
19HSS08

Course Teacher : **Mrs.D.G.BeautlinVinola**

Unit: II Engineering as social experimentation   **Date of Lecture:**

Topic of Lecture: Engineers as Managers, Consultants, and Leaders

Introduction :
- Framing organization policies, responsibilities and by personal attitudes and obligations
- The consulting engineers are directly responsible for advertising their services.
- Engineers provide many types of leadership in the development and implementation of technology, as managers, entrepreneurs, consultants, academics and officials of the government

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Prerequisite knowledge for Complete understanding and learning of Topic:
- Knowledge about advertising products
- Knowledge about leadership

Engineers as Managers, Consultants, and Leaders
Engineers as Managers
Characteristics
➢ Framing organization policies, responsibilities and by personal attitudes and obligations.
➢ Resolving conflicts, by evolving priority, developing mutual understanding, generating various alternative solutions to problems.
➢ Only the engineers have the responsibility to protect the safety, health, and welfare of the public.
➢ But managers have the ethical responsibility to produce safe and good products

Managing Conflicts
- In solving conflicts, force should not be resorted.
The conflicts in case of project managers arise in the following manners:
- Conflicts based on schedules
- Conflicts arising out of fixing the priority to different projects or departments.
- Conflict based on the availability of personnel.
- Conflict over technical, economic, and time factors such as cost, time, and performance level.
- In solving conflicts, force should not be resorted.

   Interests
- Focus must be only on interest.
- Mutual interests must be respected to a maximum level. What is right is more important than

who is right!

Options
- Generate various options as solutions to the problem so that there is no time lag in decision making.

Evaluation
- The evaluation of the results should be based on some specified objectives such as efficiency, quality and customer satisfaction.

Consultants
- **Advertising:** The consulting engineers work in private
- The consulting engineers have ethical responsibilities different from the salaried engineers, as follows:
- The consulting engineers are directly responsible for advertising their services.
- They are allowed to advertise but to avoid deceptive ones. Deceptive advertising such as the following are prohibited:

  (a) By white lies.

  (b) Half-truth, e.g., a product has actually been tested as prototype, but it was claimed to have been already introduced in the market. An architect shows the photograph of the completed building with flowering trees around but actually the foundation of the building has been completed and there is no real garden.

  (c) Exaggerated claims. The consultant might have played a small role in a well-known project. But they could claim to have played a major role.

  (d) Making false suggestions. The reduction in cost might have been achieved along with the reduction in strength, but the strength details are hidden.

  (e) Through vague wordings or slogans

Leaders
- Engineers provide many types of leadership in the development and implementation of technology, as managers, entrepreneurs, consultants, academics and officials of the government. Moral leadership is essentially required for the engineers, for the reasons listed as follows:

1. It is leading a group of people towards the achievement of global and objectives.
2. The leadership shall direct and motivate the group to move through morally desirable ways.
3. They lead by thinking ahead in time, and morally creative towards new applications, extension and putting values into practice.
4. They contribute to the professional societies, their professions, and to their communities.
5. Voluntarism: Another important avenue for providing moral leadership within communities, by the engineers is to promote services without fee or at reduced fees (pro bono) to the needy groups
6. Community service: This is another platform for the engineers to exhibit their moral leadership. The engineers can help in guiding, organizing, and stimulating the community toward morally- and environmentally-desirable goals

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Video Content / Details of website for further learning (if any):
https://freevideolectures.com/course/4414/nptel-ethics-in-engineering-practice/27

Important Books/Journals for further learning including the page nos.:

Pofessional Ethics and Human values, New Age International(P) Limited, Publishers by R.S.Nagarazan, Page No:48 -49

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LECTURE HANDOUTS

BME

II/III

Course Name with Code	**: Professional Ethics and Human Values 19HSS08**
Course Teacher	**: Mrs.D.G.BeautlinVinola**

Unit: II Engineering as social experimentation   **Date of Lecture:**

Topic of Lecture : Accountability

Introduction :
- Accountability is when an individual or department experiences consequences for their performance or actions. Accountability is essential for an organization and for a society.
- Without it, it is difficult to get people to assume ownership of their own actions because they believe they will not face any consequences.

Prerequisite knowledge for Complete understanding and learning of Topic:
- Knowledge about experiences
- Knowledge about ownership

Accountability

The term Accountability means:

1. The capacity to understand and act on moral reasons.

2. Willingness to submit one's actions to moral scrutiny and be responsive to the assessment of others. It includes being answerable for meeting specific obligations, i.e., liable to justify (or give reasonable excuses) the decisions, actions or means, and outcomes (sometimes unexpected), when required by the stakeholders or by law.

The tug-of-war between of causal influence by the employer and moral responsibility of the employee is quite common in professions. In the engineering practice, the problems are:

(a) The fragmentation of work in a project inevitably makes the final products lie away from the immediate work place, and lessens the personal responsibility of the employee.

(b) Further the responsibilities diffuse into various hierarchies and to various people. Nobody gets the real feel of personal responsibility.

(c) Often projects are executed one after another. An employee is more interested in adherence of tight schedules rather than giving personal care for the current project.

(d) More litigation is to be faced by the engineers (as in the case of medical practitioners). This makes them wary of showing moral concerns beyond what is prescribed by the institutions. In spite of all these shortcomings, engineers are expected to face the risk and show up personal responsibility as the profession demands.

Video Content / Details of website for further learning (if any):

https://www.investopedia.com/terms/a/accountability.asp

Important Books/Journals for further learning including the page nos.:

Pofessional Ethics and Human values, New Age International(P) Limited, Publishers by R.S.Nagarazan, Page No: 49

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LECTURE HANDOUTS

BME	**II/III**

Course Name with Code   : **Professional Ethics and Human Values**
                                    19HSS08
Course Teacher   : **Mrs.D.G.BeautlinVinola**
Unit: II   **Engineering as social experimentation**   **Date of Lecture:**

Topic of Lecture: Role of Codes

Introduction :
- A code of ethics is a guide of principles designed to help professionals conduct business honestly and with integrity.
- A code of ethics document may outline the mission and values of the business or organization, how professionals are supposed to approach problems, the ethical principles based on the organization's core values, and the standards to which the professional is held.

Prerequisite knowledge for Complete understanding and learning of Topic:
- Knowledge about ethics
- Knowledge about profession

Role of Codes

- Exhibit the rights , duties and obligations of the members of a profession
- Codes are set of laws and standards
- Codes of ethics provides a framework for ethical judgments for a professional
- Will not cover all ethical situations that an engineer has to face
- A code defines the roles and responsibilities of professional

The 'codes of ethics' exhibit, rights, duties, and obligations of the members of a profession and a professional society. The codes exhibit the following essential roles:

1. Inspiration and guidance. The codes express the collective commitment of the profession to ethical conduct and public good and thus inspire the individuals. They identify primary responsibilities and provide statements and guidelines on interpretations for the professionals and the professional societies.

2. Support to engineers. The codes give positive support to professionals for taking stands on moral issues. Further they serve as potential legal support to discharge professional obligations.

3. Deterrence (discourage to act immorally) and discipline (regulate to act morally). The codes serve as the basis for investigating unethical actions. The professional societies sometimes revoke membership or suspend/expel the members, when proved to have acted unethical.This sanction along with loss of respect from the colleagues and the society are bound to act as deterrent.

4. Education and mutual understanding. Codes are used to prompt discussion and reflection on moral

issues. They develop a shared understanding by the professionals, public, and the government on the moral responsibilities of the engineers. The Board of Review of the professional societies encourages moral discussion for educational purposes.

5. Create good public image. The codes present positive image of the committed profession to the public, help the engineers to serve the public effectively. They promote more of self regulation and lessen the government regulations. This is bound to raise the reputation of the profession and the organization, in establishing the trust of the public.

6. Protect the status quo. They create minimum level of ethical conduct and promotes agreement within the profession. Primary obligation namely the safety, health, and welfare of the public, declared by the codes serves and protects the public.

7. Promotes business interests. The codes offer inspiration to the entrepreneurs, establish shared standards, healthy competition, and maximize profit to investors, employees, and consumers.

Limitations:
The codes are not remedy for all evils.
They have many limitations, namely:
1. General and vague wordings. Many statements are general in nature and hence unable to solve all problems.

2. Not applicable to all situations. Codes are not sacred, and need not be accepted without criticism. Tolerance for criticisms of the codes themselves should be allowed.

3. Often have internal conflicts. Many times, the priorities are clearly spelt out, e.g., codes forbid public remarks critical of colleagues (engineers), but they actually discovered a major bribery, which might have caused a huge loss to the exchequer.

4. They can not be treated as final moral authority for professional conduct. Codes have flaws by commission and omission. There are still some grey areas undefined by codes. They cannot be equated to laws. After all, even laws have loopholes and they invoke creativity in the legal practitioners.

5. Only a few enroll as members in professional society and non-members can not be compelled.

6. Even as members of the professional society, many are unaware of the codes.

7. Different societies have different codes. The codes can not be uniform or same! Unifying the codes may not necessarily solve the problems prevailing various professions, but attempts are still made towards this unified codes.

8. Codes are said to be coercive. They are sometimes claimed to be threatening and forceful.

Video Content / Details of website for further learning (if any):

https://www.mranet.org/resource/importance-code-ethics

Important Books/Journals for further learning including the page nos.:

Pofessional Ethics and Human values, New Age International(P) Limited, Publishers by R.S.Nagarazan, Page No: 49 -50

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LECTURE HANDOUTS

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II/III

Course Name with Code   : **Professional Ethics and Human Values 19HSS08**

Course Teacher   : **Mrs.D.G.BeautlinVinola**

Unit: II   Engineering as social experimentation   **Date of Lecture:**

Topic of Lecture: **Codes and Experimental Nature of Engineering**

Introduction :
- The 'balanced outlook on law' in engineering practice stresses the necessity of laws and regulations and also their limitations in directing and controlling the engineering practice.
- Laws are necessary because,people are not fully responsible by themselves and because of the competitive nature of the free enterprise, which does not encourage moral initiatives. Laws are needed to provide a minimum level of compliance.

Prerequisite knowledge for Complete understanding and learning of Topic:
- Knowledge about Engineering practice
- Knowledge about law

Codes and Experimental Nature of Engineering

The following codes are typical examples of how they were enforced in the past:

Code for Builders by Hammurabi
Hammurabi the king of Babylon in 1758 framed the following code for the builders:
"If a builder has built a house for a man and has not made his work sound and the house which he has built has fallen down and caused the death of the householder, that builder shall be put to death. If it causes the death of the householder's son, they shall put that builder's son to death.

If it causes the death of the householder's slave, he shall give slave for slave to the householder. If it destroys property,he shall replace anything it has destroyed; and because he has not made the house sound which he has built and it has fallen down, he shall rebuild the house which has fallen down from his own property.

If a builder has built a house for a man and does not make his work perfect and the wall bulges, that builder shall put that wall in sound condition at his own cost".This code was expected to put in self-regulation seriously in those years.

Steam Boat Code in USA
Whenever there is crisis we claim that there ought to be law to control this. Whenever there is a fire

accident in a factory or fire cracker's store house or boat capsize we make this claim, and soon forget. Laws are meant to be interpreted for minimal compliance. On the other hand, laws when amended or updated continuously, would be counter productive. Laws will always lag behind the technological development. The regulatory or inspection agencies such as Environmental authority of India can play a major role by framing rules and enforcing compliance.

In the early 19th century, a law was passed in USA to provide for inspection of the safety of boilers and engines in ships. It was amended many times and now the standards formulated by the American Society of Mechanical Engineers are followed.

Proper Role of Laws
Good laws when enforced effectively produce benefits. They establish minimal standards of professional conduct and provide a motivation to people. Further they serve as moral support and defense for the people who are willing to act ethically.
Thus, it is concluded that:
1. The rules which govern engineering practice should be construed as of responsible experimentation rather than rules of a game. This makes the engineer responsible for the safe conduct of the experiment.

2. Precise rules and sanctions are suitable in case of ethical misconduct that involves the violation of established engineering procedures, which are aimed at the safety and the welfare of the public.

3. In situations where the experimentation is large and time consuming, the rules must not try to cover all possible outcomes, and they should not compel the engineers to follow rigid courses of action.

4. The regulation should be broad, but make engineers accountable for their decisions.

5. Through their professional societies, the engineers can facilitate framing the rules, amend wherever necessary, and enforce them, but without giving-in for conflicts of interest

Video Content / Details of website for further learning (if any):

https://fs.blog/2017/11/hammurabis-code/

Important Books/Journals for further learning including the page nos.:

Pofessional Ethics and Human values, New Age International(P) Limited, Publishers by R.S.Nagarazan, Page No:51 -52

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Course Name with Code : Professional Ethics and Human Values
                                19HSS08
Course Teacher   : Mrs.D.G.BeautlinVinola

UNIT IV : Engineers' Responsibility for Safety and Risk   Date of Lecture:

Topic of Lecture: Safety and Risk, Concept of Safety

Introduction :
- Safety was defined as the risk that is known and judged as acceptable. But, risk is a potential that something unwanted and harmful may occur.
- Safety was defined as "A thing is safe if its risks are judged to be acceptable".

Prerequisite knowledge for Complete understanding and learning of Topic:
- Knowledge about safety
- Knowledge about acceptability

Safety and Risk
Safety was defined as the risk that is known and judged as acceptable. But, risk is a potential that something unwanted and harmful may occur. It is the result of an unsafe situation, sometimes unanticipated, during its use.

$$\text{Probability of safety} = 1 - \text{Probability of risk}$$
$$\text{Risk} = \text{Probability of occurrence} \times \text{Consequence in magnitude}$$

Different methods are available to determine the risk (testing for safety)
1. Testing on the functions of the safety-system components.
2. Destructive testing: In this approach, testing is done till the component fails. It is too expensive, but very realistic and useful.
3. Prototype testing: In this approach, the testing is done on a proportional scale model with all vital components fixed in the system. Dimensional analysis could be used to project the results at the actual conditions.
4. Simulation testing: With the help of computer, the simulations are done. The safe boundary may be obtained. The effects of some controlled input variables on the outcomes can be predicted in a better way.

Concept of Safety

According to William W Lowrance, the famous consultant of those times, Safety was defined as "A thing is safe if its risks are judged to be acceptable."

To be more clear on this, let us consider three cases.

Let the first case be where we seriously underestimate the risks of something. Buying a non-brand electric dryer from a local market without any guarantee, may eventually send us to a hospital with a severe electric shock or burn. While buying this dryer, according to Lowrance definition, this is quite safe, as the risks are judged to be acceptable.

Let the second case be where we grossly overestimate the risks of something. If we suddenly know that the consumption of carbonated beverages like cola are the cause of cancer for 5% of the world's cancer patients, then we start worrying considering Cola as a poisonous drink. So, in this case, according to Lowrance definition, the Cola becomes unsafe the moment we judged the risks of using it to be unacceptable for us.

Let the third case be a situation wherein, a group makes no judgment at all about whether the risks of a thing are acceptable or not. As defined by Lowrance, this is the position where the thing is neither safe nor unsafe with respect to that group. Just like using the products of certain brands are considered safe, while others are not where nothing seems to differ.

Safety is frequently expressed in terms of degree and comparisons. The words like fairly-safe and relatively-safe are used where an individual is judged on the basis of settled values and it is further decided that the risks of anything are more or less acceptable in comparison with the risks of the other thing. For example, the consideration that road travel is safer than air-travel.

Video Content / Details of website for further learning (if any):

https://www.keyence.com/ss/products/safetyknowledge/about/

Important Books/Journals for further learning including the page nos.:

Pofessional Ethics and Human values, New Age International(P) Limited, Publishers by R.S.Nagarazan, Page No :55-56

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LECTURE HANDOUTS

BME

II/III

Course Name with Code : Professional Ethics and Human Values
                            19HSS08

Course Teacher : Mrs.D.G.BeautlinVinola

Unit:IV Engineer's Responsibility for safety and risk   **Date of Lecture:**

Topic of Lecture: Types of Risks – Voluntary v/s Involuntary Risk

Introduction :
- In simple terms, risk is the possibility of something bad happening.
- Risk involves uncertainty about the effects/implications of an activity with respect to something that humans value (such as health, well-being, wealth, property or the environment), often focusing on negative, undesirable consequences.

Prerequisite knowledge for Complete understanding and learning of Topic:
- Basic knowledge about risks
- Basic concepts about undesirable consequences

Types of Risks – Voluntary v/s Involuntary Risk

Voluntary v/s Involuntary Risk

Definition of Voluntary Risk:

A voluntary risk is "risk that is consciously tolerated by someone seeking to obtain the benefits of the activity that poses the risk."An example of a voluntary risk is driving or riding in a car: Most people are aware that automobile accidents occur and accept this risk.

**Definition of Involuntary Risk:**

An involuntary risk is "risk that is imposed on someone who does not directly benefit from the activity that poses the risk

Chemical plant employees are aware of and trained to handle the risks that are found in their work environment—this is a legal requirement in the United States and most countries worldwide. In

contrast, people in the surrounding community may not be fully aware of these risks or may not understand the risks and the associated probabilities and consequences.

This difference in understanding can arise because the plant may not have properly communicated these risks to the community, new risks may have been introduced in the plant over time, or people may have moved into the community without any understanding of the risk.

People are more willing to accept risks if these are carefully explained to them—including the probabilities and potential consequences. Certainly, most car drivers understand the risks of driving a car. However, people become outraged when an industrial accident occurs that involves risks of which they were not fully aware or risks with higher actual likelihoods and/or consequences than perceived.

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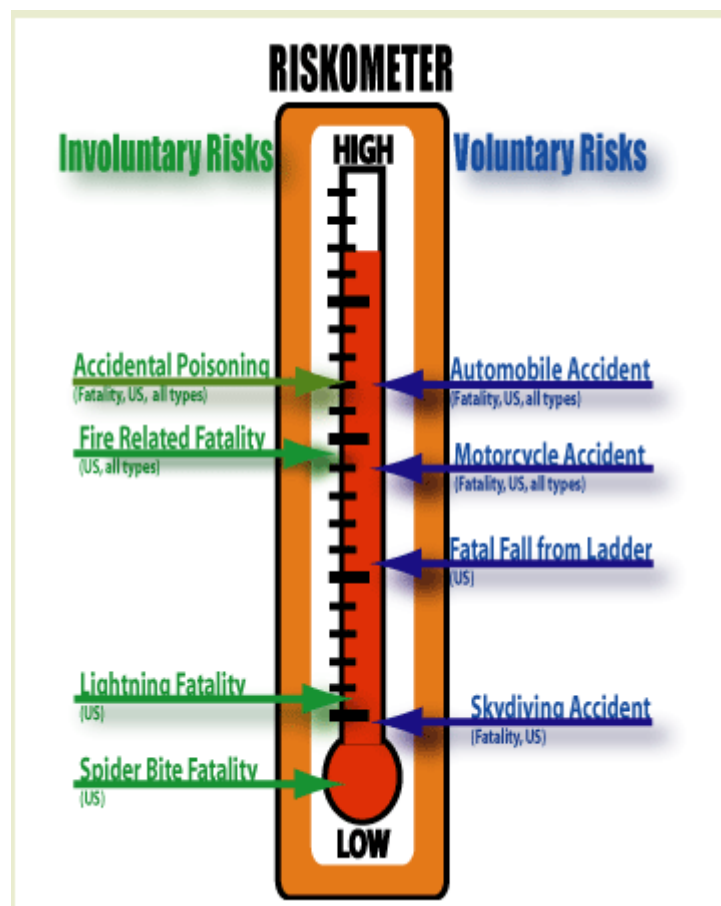
As an example, suppose you purchase a house for your family. Ten years later, you learn that the house was built on top of a toxic waste dump. The consequences are the adverse effects to the health of your family and a dramatic reduction in the value of your house. Certainly, you would be outraged.

Examples of involuntary risk include riding an airplane, visiting a mall, and walking down the street. Living near a chemical plant or other manufacturing facility is also an involuntary risk. Individuals are typically willing to accept more voluntary risk (by a factor of 10 or more) versus involuntary risk.

A community outreach program is a very important part of any process safety program for a company and plant site. The plant officials must carefully explain the risks—including both the probabilities and

the consequences—to any community that may be impacted by these risks. This effort is part of stakeholder outreach—where the set of stakeholders includes the employees, contractors, neighboring communities, neighboring companies, suppliers, customers, company stockholders, and other possible communities. The public considers chemical plants to pose a higher risk than is actually the case, so chemical plants must make a better effort to communicate these risks

Video Content / Details of website for further learning (if any):

https://www.keyence.com/ss/products/safetyknowledge/about/

Important Books/Journals for further learning including the page nos.:

Pofessional Ethics and Human values, New Age International(P) Limited, Publishers by R.S.Nagarazan, Page No :68

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Course Name with Code : Professional Ethics and Human Values
                                           19HSS08

Course Teacher   : Mrs.D.G.BeautlinVinola

Unit: IV Engineer's Responsibility for Safety and Risk   **Date of Lecture:**

Topic of Lecture: Short term v/s Long term Consequences

Introduction :
- In simple terms, risk is the possibility of something bad happening.
- Risk involves uncertainty about the effects/implications of an activity with respect to something that humans value (such as health, well-being, wealth, property or the environment), often focusing on negative, undesirable consequences

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Prerequisite knowledge for Complete understanding and learning of Topic:
- Basic knowledge about consequences
- Basic knowledge about risk

Types of Risks -Short term v/s Long term Consequences

Risk

Risk is a potential that something unwanted and harmful may occur. It is the result of an unsafe situation, sometimes unanticipated

$$\text{Risk} = \text{Probability of occurrence} \times \text{Consequence in magnitude}$$

Short term v/s Long term Consequences

   Many decisions in everyday life involve weighing up immediate and expected future outcomes that may be conflictive. Yet, it is still unclear which cognitive functions may affect decision-making in such situations.

We examined 150 healthy subjects using a new decision-making task that measures people's ability at handling short- and long-term consequences under objective risk. Two task versions were developed to investigate the effects of feedback about long-term consequences on decision-making.

One version includes feedback about changes in long-term prospects while the other does not. Both groups revealed that advantageous decision-making correlated with reasoning and working-memory abilities, however, no correlations with executive functions were found.

The effect of feedback on decision-making performance was moderated by impulsivity and need for

cognition. Our findings contribute to recent dual-system approaches for risky decision-making by showing that individuals with predispositions towards impulsive rather than reflective information processing could profit from feedback about long-term prospects.

Video content / Details of website for further learning (if any):

https://www.tandfonline.com/doi/abs/10.1080/20445911.2016.1245660

Important Books/Journals for further learning including the page nos.:
Pofessional Ethics and Human values, New Age International(P) Limited, Publishers by R.S.Nagarazan, Page No :56 -57

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II/III

**Course Name with Code : Professional Ethics and Human Values
19HSS08**

Course Teacher   : Mrs.D.G.BeautlinVinola

Unit: IV Engineer's Responsibility for Safety and Risk   Date of Lecture:

Topic of Lecture: Expected Probability

Introduction :
- In simple terms, risk is the possibility of something bad happening.
- Risk involves uncertainty about the effects/implications of an activity with respect to something that humans value (such as health, well-being, wealth, property or the environment), often focusing on negative, undesirable consequences

Prerequisite knowledge for Complete understanding and learning of Topic:
- Basics of probability
- Basics of risks

Types of Risks- Expected Probability

Risk

Risk is a potential that something unwanted and harmful may occur. It is the result of an unsafe situation, sometimes unanticipated

$$\text{Risk} = \text{Probability of occurrence} \times \text{Consequence in magnitude}$$

Expected Probability
- Risk is the product of probability and consequence
- When we undertake something, Which is not safe ,or by using the product which is not safe then we are said to be having risk
- A risk may fall into one of the following categories

  ➢ Low consequence ,Low probability
  ➢ High consequence , High probability
  ➢ Low consequence , High probability
  ➢ High consequence , Low probability

- We need to concentrate on third and fourth categories of risk.
- Third category –"Learning incidents"
- Fourth category – major hazards control and requires special attention

- A disaster = A serious continued event; A state of unpreparedness
- For example, collision of the titanic ship with an iceberg

Video Content / Details of website for further learning (if any):

https://college.cengage.com/economics/0538797274_mceachern/student/lecture/8446.pdf

Important Books/Journals for further learning including the page nos.:

Pofessional Ethics and Human values, New Age International(P) Limited, Publishers by R.S.Nagarazan, Page No :65

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LECTURE HANDOUTS

BME

II/III

Course Name with Code   : **Professional Ethics and Human Values**
                                             19HSS08

Course Teacher   : **Mrs.D.G.BeautlinVinola**

Unit: IV Engineer's Responsibility for Safety and Risk   Date of Lecture:

Topic of Lecture: -Reversible Effects

Introduction :
- In simple terms, risk is the possibility of something bad happening.
- Risk involves uncertainty about the effects/implications of an activity with respect to something that humans value (such as health, well-being, wealth, property or the environment), often focusing on negative, undesirable consequences

Prerequisite knowledge for Complete understanding and learning of Topic:
- Basic knowledge about effects on risk
- Basic knowledge about undesirable consequences

Types of Risks - Reversible Effects

Risk

Risk is a potential that something unwanted and harmful may occur. It is the result of an unsafe situation, sometimes unanticipated

$$\text{Risk} = \text{Probability of occurrence} \times \text{Consequence in magnitude}$$

Reversible Effects

What Are The Risks of Smoking?

Cigarette smoking kills over 400,000 Americans each year – more than the combined deaths from alcohol, illegal drug use, homicide, suicide, car accidents, and AIDS combined.

Cancer – Before cigarette smoking became widespread in the twentieth century, lung cancer was a rare disease. However, as smoking become popular, lung cancer rose to became a leading cause of death. Scientific research demonstrated that the toxic chemicals in cigarette smoke are carcinogenic. Smoking is also associated with cancers of the throat and digestive tract.

Heart and Vascular Disease – there is a strong association between smoking and the development of atherosclerosis, the "hardening of the arteries" that causes heart attacks, strokes and aneurysms. These conditions are among the major causes of death in smokers. A heart attack is 2-4 times more likely in a

smoker than a non-smoker. Quitting smoking is the single most effective way to reduce the risk of a future heart attack.

Lung Injury and COPD – A person's first puff from a cigarette invariably causes coughing.   This is the body's warning sign–inhaled smoke damages the lung. Cigarette smoke irritates the lung's bronchial tubes, causing mucus production. The smoke also paralyzes the cells that clear mucus and debris out of the lung. . Over time, cigarette smoke causes mucus plugging, swelling and, sometimes, destruction of the bronchial tubes. This makes the lung more vulnerable to infections. When bronchial tubes are blocked or distorted, it is also much harder to move air in and out of the lung. This condition, called chronic obstructive pulmonary disease (COPD), is a leading cause of death and disability.

Nicotine Addiction – Nicotine is one of the most addictive substances known — often compared to heroin. Nicotine withdrawal produces symptoms similar to opiates, which is why is it so difficult to quit smoking, Cigarette smoke delivers nicotine immediately to brain areas associated with pleasurable sensations. Nicotine also increases heart rate and blood pressure, and constricts blood vessels. This puts strain on the heart and promotes vascular disease..

If You Quit Smoking, Health Risks Fall Dramatically.

Cancer – Smoking cessation for 10 years cuts the risk of lung cancer in half. The reason is that the lung is no longer exposed to the carcinogens in cigarette smoke. With continued abstinence from smoking, the risk continues to decline. Similar results have been seen with laryngeal and other forms of cancer.

Heart and Vascular Disease – For someone with known coronary artery disease (CAD), smoking cession reduces the risk of a future cardiac event by 50%. For someone without CAD, quitting smoking for one year reduces the risk of CAD by 50%. If abstinence continues for 15 years, the risk of future heart events is almost the same as a lifetime non-smoker. The same is true for the risk of stroke.

COPD – Smokers expose their lungs to the constant irritation of cigarette smoke, and have a faster decline in lung function than non-smokers.   This decline occurs slowly and is not noticeable until the lung function is so low that it affects everyday activity. At that point, smoking cessation will reduce lung irritation but the chronically diseased lung cannot repair years of damage. The best strategy is to stop smoking before significant damage has occurred. The good news is smoking cessation can halt the rapid decline in lung function before more damage occurs.

Nicotine Addiction – Most smokers want to quit smoking but nicotine withdrawal is a major obstacle. As the old saying goes, "if it were easy, everyone would do it". Most smokers who try to quit fail multiple times. However, the encouraging statistic is that millions of Americans have kicked the habit. The best results come from planned programs to break the nicotine addiction and eliminate lifestyle habits associated with smoking.

In summary, smoking has life-threatening health care risks. Once a person stops smoking, these risks decline significantly over time. While kicking the habit is challenging, the health benefits are enormous. It is never too late to quit.

Video Content / Details of website for further learning (if any):

https://healthwebnav.org/are-the-health-risks-of-smoking-reversible/

Important Books/Journals for further learning including the page nos.:

Pofessional Ethics and Human values, New Age International(P) Limited, Publishers by R.S.Nagarazan, Page No :65 -66

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LECTURE HANDOUTS

BME

II/III

Course Name with Code	**: Professional Ethics and Human Values**
	19HSS08
Course Teacher	**: Mrs.D.G.BeautlinVinola**

Unit: IV Engineer's Responsibility for Safety and Risk   **Date of Lecture:**

Topic of Lecture: Threshold Levels for Risk

Introduction :
- In simple terms, risk is the possibility of something bad happening.
- Risk involves uncertainty about the effects/implications of an activity with respect to something that humans value (such as health, well-being, wealth, property or the environment), often focusing on negative, undesirable consequences

Prerequisite knowledge for Complete understanding and learning of Topic:
- Knowledge about probability of risk
- Knowledge about level of risk

Types of risks -Threshold Levels for Risk

Risk

Risk is a potential that something unwanted and harmful may occur. It is the result of an unsafe situation, sometimes unanticipated

$$\text{Risk} = \text{Probability of occurrence} \times \text{Consequence in magnitude}$$

Threshold Levels for Risk

To make decisions that correspond with the organizational direction, it is important for a project manager to know how much risk is too much. In this lesson, we discuss the difference between risk tolerance and risk threshold.

Risk Attitude of an Organization

Imagine yourself selling a house. Luckily for you, the real estate market is booming and the prices are growing. Would you be keen to sell as soon as possible, while the market conditions are still favorable, or would you prefer to wait for a little longer hoping that the price will increase even further? The answer to this question depends on your risk attitude - how much risk you are willing to tolerate in expectation of a bigger reward.

The risk attitude of an organization will define the way it will act when a risk will occur on a project. Planning a specific risk response is an integral part of the **risk management process**. A four-step process begins with identifying potential risks and carrying out risk analysis, followed by selecting a

risk response in accordance with the organizational risk attitude and monitoring project performance.

In this lesson, we will discuss two terms—risk tolerance and risk threshold. These are both used to discuss the maximum amount of risk an organization is willing to take on.

Risk Tolerance

The risk attitude of an organization defines how much or how little risk an organization is willing to take on. While some organizations will generally be more risk averse than others due to the industry characteristics or the current financial position, the attitude towards taking on additional risks may also differ from one project to another. For strategically important projects, an organization might be willing to take on larger risks in hopes of larger rewards.

Risk tolerance quantifies the amount of risk an organization is willing to take on. Risk tolerance is a range and is usually expressed as a percentage below and above the planned value - either project budget or schedule.

Imagine yourself successfully selling the house from the earlier example, and now using the funds to build a bigger house for your family. While you should create both a budget and a schedule, it is wise to assume that some things might not go as planned and have a certain financial and time cushion. The cost tolerance of your construction project can be +/-10% of the original budget.

Risk Threshold

In contrast to risk tolerance, risk threshold is a fixed number, not a range. **Risk threshold** is a level of uncertainty and impact from risk below which an organization an organization will accept a risk and above which an organization will not accept a risk. Similarly to risk tolerance, risk threshold is expressed in measurable units together with the probability of occurrence. The risk thresholds are usually set at individual project activity level. This helps to quantify the impact and probability more accurately.

Video Content / Details of website for further learning (if any):
https://pmstudycircle.com/2014/05/risk-appetite-risk-tolerance-and-risk-threshold/

Important Books/Journals for further learning including the page nos.:
Pofessional Ethics and Human values, New Age International(P) Limited, Publishers by R.S.Nagarazan, Page No :65 -66

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LECTURE HANDOUTS

BME   **II/III**

Course Name with Code   : **Professional Ethics and Human Values**
                               19HSS08

Course Teacher   : **Mrs.D.G.BeautlinVinola**

Unit: IV Engineer's Responsibility for Safety and Risk   **Date of Lecture:**

Topic of Lecture : Delayed v/s Immediate Risk

Introduction :
- In simple terms, risk is the possibility of something bad happening.
- Risk involves uncertainty about the effects/implications of an activity with respect to something that humans value (such as health, well-being, wealth, property or the environment), often focusing on negative, undesirable consequences

Prerequisite knowledge for Complete understanding and learning of Topic:
- Basic knowledge about risk
- Basic knowledge about consequences

Types of risks -Delayed v/s Immediate Risk

Risk

Risk is a potential that something unwanted and harmful may occur. It is the result of an unsafe situation, sometimes unanticipated

$$\text{Risk} = \text{Probability of occurrence} \times \text{Consequence in magnitude}$$

Delayed v/s Immediate Risk

The study of risk analysis covers other areas such as risk identification, risk analysis, risk assessment, risk rating, suggestions on risk control and risk mitigation. In fact, risk analysis can be deeply discussed with a view on risk management study. The risk management study also includes residual risk transfer, risk financing, etc.

A step-wise risk analysis includes −

- Hazards identification
- Failure modes and frequencies evaluation from established sources and best practices.
- Selection of credible scenarios and risks.
- Fault and event trees for various scenarios.
- Consequences-effect calculations with work out from models.

- Individual and societal risks.

- ISO risk contours superimposed on layouts for various scenarios.

- Probability and frequency analysis.

- Established risk criteria of countries, bodies, standards.

- Comparison of risk against defined risk criteria.

- Identification of risk beyond the location boundary, if any.

- Risk mitigation measures.

All of these again depend on how the risk is compared with the benefit in doing the work with some risk. How far it is beneficial to risk also counts the actions of a person while coming out of the safety bounds.

Video Content / Details of website for further learning (if any):

https://www.tutorialspoint.com/engineering_ethics/engineering_ethics_responsibility_for_safety.htm

Important Books/Journals for further learning including the page nos.:

Pofessional Ethics and Human values, New Age International(P) Limited, Publishers by R.S.Nagarazan, Page No :56 -57

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LECTURE HANDOUTS

BME

II/III

Course Name with Code   : **Professional Ethics and Human Values 19HSS08**

Course Teacher   : **Mrs.D.G.BeautlinVinola**

Unit: IV Engineer's Responsibility for Safety and Risk   **Date of Lecture:**

Topic of Lecture: Safety and the Engineer – Designing for Safety

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Introduction :

- Safety is defined as the state of being free from harm or danger. Safety management can apply to many heavily regulated industries like automotive, aviation, oil, healthcare, workplace, and food quality.
- A safety management system (SMS) is defined as an organization-wide process designed to manage safety risk in the workplace. A safety management system can be created to fit any business type and/or industry sector. Generally, effective SMS processes and procedures

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Prerequisite knowledge for Complete understanding and learning of Topic:
- Awareness about harm or danger
- Awareness about safety management

Safety and the Engineer – Designing for Safety

Safety and the Engineer
- Engineers has to face two problems
- ➢ Optimistic Attitude
- ➢ Pessimistic Attitude
- Optimistic Attitude: Familiar actions or things , can be controlled by them,no real risks
- Pessimistic Attitude: Engineers feel that an accident kills many people , consider those risks as high ones
- Engineers should recognize as a part of work widely held perceptions and take them into account in their designs

Designing for Safety
- Difficult to attain 100 percent safety
- Products which are safe – increase in cost of the product
- Products which are not safe – increase in secondary costs , loss of customers good will
- Producers must know the risk factors of any given product

Engineers must know the safety measures before assessing the risk of any product . The factors are
- Does the engineer have the right data?
- Is he satisfied with the present design?
- How does he test the safety of the product?

- How does he measure and weigh the risks with benefits for a product
- A stress on high safety and low risks leads to high primary costs and lower secondary costs

Knowledge of risks
- It is the data in designing a product
- Though past experience and historical data give better information about the safety of products designing
- The reasons for inadequacies are
- ➤ Information is not freely shared among industries
- ➤ New applications of old technologies that provide available data which are less useful
- Engineers must share their knowledge and information with others in a free manner
-

Uncertainties in Design
- Risk in a product arises due to arises due to uncertainties faced by all kinds of engineers such as design engineer, manufacturing engineer , sales and application engineer
- ➤ Purpose of designing
- Purpose of designing has lot of uncertainities example, airline investment
- ➤ Application of the product
- Uncertainties may also be based on the type of loading of that design and uses of design
- ➤ Materials and Skill used for producing the product
- Uncertainties regarding the materials and level of skills used in designing

Video Content / Details of website for further learning (if any):

https://www.hsa.ie/eng/Your_Industry/Construction/Designing_for_Safety/

Important Books/Journals for further learning including the page nos.:
Pofessional Ethics and Human values, New Age International(P) Limited, Publishers by R.S.Nagarazan, Page No :55 - 56

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LECTURE HANDOUTS

BME

II/III

Course Name with Code   : **Professional Ethics and Human Values 19HSS08**

Course Teacher   : **Mrs.D.G.BeautlinVinola**

Unit: IV Engineer's Responsibility for Safety and Risk   **Date of Lecture:**

Topic of Lecture: Risk- Benefit Analysis-Accidents.

Introduction :

- A risk–benefit ratio is the <u>ratio</u> of the <u>risk</u> of an action to its potential benefits. Risk–benefit analysis is <u>analysis</u> that seeks to <u>quantify</u> the risk and benefits and hence their ratio.

- Analyzing a risk can be heavily dependent on the human factor. A certain level of risk in our lives is accepted as necessary to achieve certain benefits.

- For example, driving an automobile is a risk most people take daily, also since it is mitigated by the controlling factor of their perception of their individual ability to manage the risk-creating situation.

- When individuals are exposed to involuntary risk (a risk over which they have no control), they make risk aversion their primary goal.

Prerequisite knowledge for Complete understanding and learning of Topic:
- Basic knowledge about risk
- Basic knowledge about benefits of taking risk

Risk- Benefit Analysis-Accidents.

The major reasons for the analysis of the risk benefit are:
1 To know risks and benefits and weigh them each
2 To decide on designs, advisability of product/project
3 To suggest and modify the design so that the risks are eliminated or reduced

There are some limitations that exist in the risk-benefit analysis. The economic and ethical limitations are presented as follows:

1. Primarily the benefits may go to one group and risks may go to another group. Is it ethically correct?
2. Is an individual or government empowered to impose a risk on some one else on behalf of supposed benefit to some body else? Sometimes, people who are exposed to maximum risks may get only the minimum benefits. In such cases, there is even violation of rights.

3. The units for comparison are not the same, e.g., commissioning the express highways may add a few highway deaths versus faster and comfortable travel for several commuters. The benefits may be in terms of fuel, money and time saved, but lives of human being sacrificed. How do we then compare properly?

4. Both risks and benefits lie in the future. The quantitative estimation of the future benefits, using the discounted present value (which may fluctuate), may not be correct and sometime misleading.

Case study: The Challenger disaster

The Challenger disaster occurred on the 28th January of 1986, when the NASA Space Shuttle orbiter Challenger broke apart and disintegrated at 73 seconds into its flight, leading to the deaths of its seven crew members. The accident had serious consequences for the NASA credibility and resulted in an interruption of 32 months in the shuttle program. The Presidential Rogers Commission (formed by astronaut Neil A. Armstrong and Nobel laureate Richard P. Feynman[143], among others) was created in order to investigate the causes of the disaster.

The Rogers Commission elaborated a report (Presidential Commission on the Space Shuttle Challenger Accident 1986) with all the findings. The commission determined that the disintegration began with the failure of an O-ring seal in the solid rocket booster due to the unusually cold temperature (−0.6−0.6 Celsius degrees; 30.9230.92 Fahrenheit degrees) during the launch.

This failure produced a breach of burning gas through the solid rocket booster that compromised the whole shuttle structure, resulting in its disintegration due to the extreme aerodynamic forces. The problem with O-rings was something known.

The night before the launch, there was a three-hour teleconference between rocket engineers at Thiokol, the manufacturer company of the solid rocket boosters, and NASA. In the teleconference it was discussed the effect on the O-rings performance of the low temperature forecasted for the launch, and eventually a launch decision was attained.

Video Content / Details of website for further learning (if any):

https://bookdown.org/egarpor/PM-UC3M/glm-challenger.html

Important Books/Journals for further learning including the page nos.:

Pofessional Ethics and Human values, New Age International(P) Limited, Publishers by R.S.Nagarazan, Page No :66 - 67

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LECTURE HANDOUTS

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II/III

Course Name with Code : Professional Ethics and Human Values
19HSS08
Course Teacher   :Mrs.D.G.BeautlinVinola

UNIT V : Engineers' Responsibilities and Rights   Date of Lecture:

Topic of Lecture: Collegiality-Techniques for Achieving Collegiality

Introduction :
- Collegiality is the relationship between colleagues.

- Colleague is taken to mean a fellow member of the same profession, a group of colleagues united in a common purpose, and used in proper names, such as Electoral College, College of Cardinals, and College of Pontiffs

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Prerequisite knowledge for Complete understanding and learning of Topic:
- Basics about relationship
- Knowledge about a profession

Collegiality-Techniques for Achieving Collegiality

Collegiality
Craig lhara defines collegiality as "a kind of connectedness grounded in respect for professional expertise and in a commitment to the goals and values of he profession".It is the tendency to support and cooperate with the colleagues.

Techniques for Achieving Collegiality
1. Respect to the ideas and work of others: This results in support and cooperation with one's colleagues. One gets back the support and cooperation in return, and this is mutually beneficial.

2. Commitment to moral principles: Commitment is towards moral decisions, actions, goals of the organization and values of the profession.

3. Connectedness: It means the shared commitment and mutual understanding. It ensures the absence of egoism and paves way for progress for both.
Generally collegiality should be encouraged among engineers because

a.It is an influential value to promote the aims of professions.Therefore it strengthens an engineer's motivation to live upto professional standards.

b.It is more valuable as many individuals jointly working for the goodness of the public and society.

Negative Aspects of Collegiality

- It may be misused or distorted.
- It may degenerate more groups of self-interest, rather than groups of shared devotion to the public good.
- It may focus on corporate goal of maximizing profit at the expense of the public good.

Video Content / Details of website for further learning (if any):

https://www.brainkart.com/article/Collegiality-and-Loyalty_11651/

Important Books/Journals for further learning including the page nos.:

Pofessional Ethics and Human values, New Age International(P) Limited, Publishers by R.S.Nagarazan, Page No :71

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II/III

Course Name with Code : Professional Ethics and Human Values
   19HSS08

Course Teacher : Mrs.D.G.BeautlinVinola

Unit: V Engineers' Responsibilities and Rights   Date of Lecture:

Topic of Lecture: Two Senses of Loyalty- obligations of Loyalty-misguided Loyalty

Introduction :
- Loyalty, in general use, is a <u>devotion</u> and <u>faithfulness</u> to a nation, cause, philosophy, <u>country</u>, group, or <u>person</u>.
- <u>Philosophers</u> disagree on what can be an object of loyalty, as some argue that loyalty is strictly interpersonal and only another human <u>being</u> can be the object of loyalty.
- The definition of loyalty in <u>law</u> and <u>political science</u> is the fidelity of an individual to a <u>nation</u>, either one's nation of birth, or one's declared home nation by <u>oath</u> (<u>naturalization</u>).

Prerequisite knowledge for Complete understanding and learning of Topic:
- Basic knowledge about devotion
- Knowledge about faithfulness

Two Senses of Loyalty- obligations of Loyalty-misguided Loyalty
Loyalty

It is the quality of being true and faithful in one's support. It is more a function of attitudes, emotions and a sense of identity.
It is more a function of attitudes, emotions and a sense of identity.

Two senses of Loyalty
1. Agency loyalty and
2. Identification loyalty

AGENCY LOYALTY
- It is an obligation to fulfil his/her contractual duties to the employer. The duties are specific actions one is assigned, and in general cooperating with others in the organization.
- It consists of several obligations to employers. But, for the engineers, the paramount obligation is still "the safety, health and welfare of the public".

IDENTIFICATION LOYALTY
- In contrast to agency loyalty, identification loyalty is much concerned with attitudes, emotions and a sense of personal identity as it does with actions.

- This is more a virtue than an obligation. It is all right when the organization work for productivity or development of community.
- Working together in falsification of records or serious harm to the public, does not merit loyalty

What Is Duty of Loyalty?

Duty of loyalty is a director's responsibility to act at all times in the best interests of their company. The duty of loyalty is one of the two primary fiduciary duties required to be discharged by a company's directors, the other being the duty of care.

The duty of loyalty requires a director to be completely loyal to the company at all times. It also imposes the responsibility to avoid possible conflicts of interest, thereby precluding a director from self-dealing or taking advantage of a co Understanding Duty of Loyalty.

The duty of loyalty imposes a number of additional responsibilities upon the directors of a company. They are required to keep confidential, and not disclose or use, any information that they come across in their official capacity as directors.

They also have to report all conflicts of interest, whether actual or potential, real or perceived, to the board of directors; they obtain legal advice in cases where it is unclear whether or not a conflict exists. In cases where in conflict does exist, the director should be fully transparent about it and disclose all relevant information.

Duty of Loyalty Key Components

A director's duty of loyalty has three main components:

1. They must not usurp corporate opportunities for their own personal gain.
2. They must avoid having a personal interest in transactions between the corporation and another party.
3. They must keep the corporation's information private.

While these may seem like onerous requirements, a director who is completely loyal to the company will have no problem in adhering to the duty of loyalty. But problems will arise when directors place their own interests above those of the company or have an undisclosed conflict of interest

Video Content / Details of website for further learning (if any):

https://www.brainkart.com/article/Collegiality-and-Loyalty_11651/

Important Books/Journals for further learning including the page nos.:

Pofessional Ethics and Human values, New Age International(P) Limited, Publishers by R.S.Nagarazan, Page No :71 -72

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II/III

Course Name with Code : **Professional Ethics and Human Values**
19HSS08

Course Teacher **: Mrs.D.G.BeautlinVinola**

Unit: V Engineers' Responsibilities and Rights **Date of Lecture:**

Topic of Lecture: **professionalism and Loyalty- Professional Rights**

Introduction :
- Freedom to discuss the terms and conditions of the employment with other employees and negotiating wages to suit lifestyle as per changing times.
- Right to ask for safe working conditions and reservation to answering questions on age, religion, nationality, and medical condition

Prerequisite knowledge for Complete understanding and learning of Topic:
- Knowledge about freedom of rights
- Knowlegde about working conditions

professionalism and Loyalty- Professional Rights

Professional Rights

An employee is, at the very least, entitled to the following rights at his workplace −

- No discrimination at work, especially on the basis of gender, nationality, religion, medical condition, and political affiliation.

- Healthy work-life balance, which means no long hours at work. Employees can also report if their employer makes unnecessary delays in delegating work.

- Protection of job for people with disabilities and medical conditions.

- Complete protection against sexual harassment of any kind and immunity from being forced to exchange favors for benefits.

- Freedom to discuss the terms and conditions of the employment with other employees and negotiating wages to suit lifestyle as per changing times.

- Right to ask for safe working conditions and reservation to answering questions on age, religion, nationality, and medical condition.

- Demanding certain changes and modifications regarding the working conditions to accommodate situations that might crop up due to their prevailing medical conditions.

- Right to form or participate a union that aims to improve the wages, lifestyle, working environment, and emphasizes on employee rights at the workplaces.

Video content / Details of website for further learning (if any):

http://ethics.tamu.edu/wpcontent/uploads/sites/7/2017/04/ethics.tamu_.edu_ethics_essays_loyalty.pdf

Important Books/Journals for further learning including the page nos.:
Pofessional Ethics and Human values, New Age International(P) Limited, Publishers by R.S.Nagarazan, Page No :81

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LECTURE HANDOUTS

BME

II/III

**Course Name with Code : Professional Ethics and Human Values
19HSS08**

Course Teacher   :Mrs.D.G.BeautlinVinola

Unit: V   Engineers' Responsibilities and Rights   Date of Lecture:

Topic of Lecture: Professional Responsibilities –confidential and proprietary information
Introduction : • Proprietary information may consist of any system, information, or process that could give the Company an advantage over its competitors. • Confidential information includes non-public information that you are expected to safeguard from disclosure to the public. All proprietary information is confidential information.
Prerequisite knowledge for Complete understanding and learning of Topic: • Knowledge about responsibilities of an engineer • Knowledge about confidential information
Professional Responsibilities –confidential and proprietary information **Confidential and proprietary information** In the course of your employment with the Company, you may create, receive, know of or gain access to information that is confidential and/or proprietary. Confidential and proprietary information may be in a physical form (on paper, in an e-mail, on a diskette, videotape, etc.) or may be knowledge acquired through conversations to which you are a party or that you overhear. Proprietary information may consist of any system, information, or process that could give the Company an advantage over its competitors. Confidential information includes non-public information that you are expected to safeguard from disclosure to the public. All proprietary information is confidential information. Therefore, proprietary and confidential information will be collectively referred to in this Policy as "confidential information." Examples of confidential information include, but are not limited to:

• Information about the Company's operations, results, earnings projections, strategies, clients or client relationships, proprietary products or employee records.

• Information about the Company's or a client's merger or acquisition transactions, securities positions, pending orders or plans to raise capital (whether through registered offering or offerings exempt from registration), or any other information that could be deemed material to the Company or one of its clients.

Employee Obligations Regarding Confidential Information As a general rule, you should presume that any information you receive about the Company or its customers is confidential and, therefore, should be protected from disclosure.

You have an obligation to safeguard confidential information, whether generated internally or acquired from other sources, and to use it only in the performance of your employment responsibilities.

You may not personally profit from confidential information. You may not use confidential information to trade securities for your own (or related) accounts or to advise relatives, friends or other persons with respect to trading securities.

For additional guidance on this issue, please refer to the Company's Policy on Insider Trading set forth in the Written Supervisory Procedures Manual, a copy of which may be obtained from the Company's compliance department or the Company's General Counsel.

• During and after your employment by the Company, you may not disclose confidential information to anyone outside the Company. You may not use (or permit anyone else to use) such information, except as required by your employment responsibilities at the Company.

• Upon termination of your employment, you must return to the Company all physical (including electronic) copies of confidential information as well as all other material embodied in any physical or electronic form that is based on or derived from such information, without retaining any copies.

• You may not bring to the Company confidential information of any former employer or use such information to aid the business of the Company without the prior written consent of your former employer.

• You may not seek to obtain confidential information that may be in the possession of other persons or business units of the Company that you do not need to know to do your job.

• You may not share confidential information with other employees except on a strict need to know basis.

Video Content / Details of website for further learning (if any):

https://www.lawinsider.com/dictionary/proprietary-and-confidential-information

Important Books/Journals for further learning including the page nos.:

Pofessional Ethics and Human values, New Age International(P) Limited, Publishers by R.S.Nagarazan, Page No :81,82

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II/III

Course Name with Code	: **Professional Ethics and Human Values 19HSS08**
Course Teacher	:Mrs.D.G.BeautlinVinola

Unit: V Engineers' Responsibilities and Rights   **Date of Lecture:**

Topic of Lecture: Conflict of Interest-solving conflict problems – Self- interest

Introduction :
- Conflict of interest is a complex issue that reflect structural problems of any uncivilized society.
- It relates with several facets including socio-cultural, political, and administrative. If government officials lack of ethical immunity in enhancing values and cultural systems then they lost of consciences to protect public interest.
- The common phenomena are the abuses of power for interfering in development policies, projects and economic activities.

Prerequisite knowledge for Complete understanding and learning of Topic:
- Knowledge about conflicts
- Knowledge about enhancing values

Conflict of Interest-solving conflict problems – Self- interest

A conflict of interest arises when what is in a person's best interest is not in the best interest of another person or organization to which that individual owes loyalty.

For example, an employee may simultaneously help himself but hurt his employer by taking a bribe to purchase inferior goods for his company's use.

A conflict of interest can also exist when a person must answer to two different individuals or groups whose needs are at odds with each other. In this case, serving one individual or group will injure the other.

In business and law, having a "fiduciary responsibility" to someone is known as having a "duty of loyalty." For example, auditors owe a duty of loyalty to investors who rely upon the financial reports that the auditors certify. But auditors are hired and paid directly by the companies whose reports they review. The duty of loyalty an auditor owes to investors can be at odds with the auditor's need to keep the company – its client – happy, as well as with the company's desire to look like a safe investment.

So, those of us who wish to be ethical people must consciously avoid situations where we benefit

ourselves by being disloyal to others.

Conflict of interest typologies can be considered the work Canadian political scientist Ken Kernaghan and John Langford in their book, The Responsible Public Servant. They list seven categories:

• Self-dealing: Using official position to secure a contact for a private consulting company of you own. Another instance is using government position to get a summer job for your daughter.

• Accepting benefits: Bribery is one example; substantial [non token] gifts are another. For example, you are the purchasing agent for your department and you accept a case of liquor from a major supplier.

• Influence peddling: The professional solicits benefits in exchange for using her influence to unfairly advance the interest of a particular party.

• Using your employer's property for private advantage: This could be as blatant as stealing office supplies for home use. Or it might be as a bit more subtle, say, using software which is licensed to your employer for private work of your own.

• Using confidential information. While working for a private client, you learn that the client is planning to buy land in your region. You quickly rush out buy land in your region. You quickly rush out and buy the land in your region. You quickly rush out and buy the land in your wife's name.

• Outside employment or moonlighting. An example would be setting up a business on the side that is in direct competition with your employer. Another case would be taking on so many outside clients that you don't have time and energy to devote your regular employer. In combination with influence peddling, it might be that a professional employed in the public service sells private consulting services to an individual with the assurance that they will secure benefits from government: "if you use my company, I am sure that you will pass the environmental review."

• Post-employment. A person who resigns from public or private employment and goes into business in the same area. For example, a former public servant sets up a practice lobbying the former department in which she employed

Video Content / Details of website for further learning (if any):

https://www.oecd.org/site/adboecdanti-corruptioninitiative/regionalseminars/35592747.pdf

Important Books/Journals for further learning including the page nos.:

Pofessional Ethics and Human values, New Age International(P) Limited, Publishers by R.S.Nagarazan, Page No :77

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Rasipuram - 637 408, Namakkal Dist., Tamil Nadu

L42

LECTURE HANDOUTS

BME	II/III

Course Name with Code : Professional Ethics and Human Values 19HSS08

Course Teacher :Mrs.D.G.BeautlinVinola

Unit: V Engineers' Responsibilities and Rights   **Date of Lecture:**

Topic of Lecture: Customs and Religion- Ethical egoism

Introduction :
- Various cultures in our pluralistic society lead to tolerance for various customs, beliefs and outlooks.
- Accordingly ethical pluralism also exists. Although many moral attitudes appear to be reasonable, the rational and morally concerned people cannot fully accept any one of the moral perspectives.

Prerequisite knowledge for Complete understanding and learning of Topic:
- Basic knowledge about religion
- Basics about moral attitude

Customs and Religion- Ethical egoism

Ethical Pluralism: Various cultures in our pluralistic society lead to tolerance for various customs, beliefs, and outlooks. Accordingly ethical pluralism also exists. Although many moral attitudes appear to be reasonable, the rational and morally concerned people can not fully accept any one of the moral perspectives.

There are many varied moral values, which allow variation in the understanding and application of values by the individuals or groups in their everyday transactions. It means that even reasonable people will not agree on all moral issues and professional ethics.

Ethical Relativism: According to this principle, actions are considered morally right when approved by law or custom, and wrong when they violate the laws or customs. The deciding factor is the law or the customs of the society. Should we accept the principle of relativism or not? A few reasons to accept this are explained in the following paragraphs:

1. Laws appear to be objective ways for judging values. The laws and customs tend to be definite, clear and real, but not always. Further moral reasons allow objective criticism of laws, as being morally lacking. For example, the Apartheid laws of South Africa violated the human rights of the native Africans. No legal protection was available for native citizens for a long time. Now, of course, these laws have been repealed.

2. Ethical relativism assumes that the values are subjective at the cultural level. Moral standards also vary from culture to culture. The objectivity is supported by the existing laws of society. The relative morality accepted, supports the virtue of tolerance of differences among societies. This argument is also not fully acceptable. As per ethical relativism, the actions and laws of the Nazis and Hitler who vowed on Anti-Semitism and killed several million Jews would be accepted as right.

3. Moral relationalism or moral contextualism: According to this, the moral judgments must be made in relation to certain factors, which may vary from case to case. The morally important factors for making judgments include the customs and laws. The virtue ethicists hold that the practical wisdom should prevail upon assessing the facts and in the judgment.

This principle was accepted by the early anthropologists because they had a specific tendency to over-stress the scope of moral difference between cultures. The human sacrifices and cannibalism were accepted. But the modern anthropologists insist that all cultures shall exhibit the virtue of social welfare and safety against needless death or physical or mental harm.

Moral differences were based on the circumstances and facts and not on the difference in moral attitudes. For example, the pharaohs buried the live attendants along with their dead king with the belief that they would continue to serve the king in his after life.

RELIGION

Religions have played major roles in shaping moral views and moral values, over geographical regions. Christianity has influenced the Western countries, Islam in the Middle-East countries, Buddhism and Hinduism in Asia, and Confucianism in China. Further, there is a strong psychological link between the moral and religious beliefs of people following various religions and faiths.

Religions support moral responsibility. They have set high moral standards. Faith in the religions provides trust and this trust inspires people to be moral. The religions insist on tolerance and moral concern for others. Many professionals who possess religious beliefs are motivated to be morally responsible.

Each religion lays stress on certain high moral standards. For example, Hinduism holds polytheistic (many gods) view, and virtues of devotion and surrender to high order. Christianity believes in one deity and emphasizes on virtues of Love, Faith, and Hope. Buddhism is non-theistic and focuses on compassion and Islam on one deity and adherence of ishan (piety or pursuit of excellence) and prayer.

Judaism stresses the virtue of 'tsedakah' (righteousness). But many religious sects have adopted poor moral standards, e.g., many religious sects do not recognize equal rights for women. The right to worship is denied for some people. People are killed in the name of or to promote religion. Thus, conflicts exist between the 'secular' and religious people and between one religion and another. Hence, religious views have to be morally scrutinized.

Video Content / Details of website for further learning (if any):
https://www.oecd.org/site/adboecdanti-corruptioninitiative/regionalseminars/35592747.pdf

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Pofessional Ethics and Human values, New Age International(P) Limited, Publishers by R.S.Nagarazan, Page No :41,42

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LECTURE HANDOUTS

BME

II/III

Course Name with Code	: Professional Ethics and Human Values 19HSS08
Course Teacher	: Mrs.D.G.BeautlinVinola

Unit: V Engineers' Responsibilities and Rights **Date of Lecture:**

Topic of Lecture : Collective bargaining- Confidentiality

Introduction :
- It is the bargain by the trade union for improving the economic interests of the worker members. The process includes negotiation, threatening verbally, and declaration of 'strike'.
- It is impossible to endorse fully the collective bargaining of unions or to condemn.

Prerequisite knowledge for Complete understanding and learning of Topic:
- Knowledge about confidentiality
- Knowledge about bargaining

Collective bargaining- Confidentiality

It is the bargain by the trade union for improving the economic interests of the worker members. The process includes negotiation, threatening verbally, and declaration of 'strike'. It is impossible to endorse fully the collective bargaining of unions or to condemn. There exist always conflicting views between the professionalism and unionism.

Faithful Agent or Trustee?
Professional societies such as NSPE and IEI refuse to accept the 'collective coercive action' of unionism,holding the principles of professional integrity as right, e.g., as per NSPE code III, i.e., engineers shall not promote their own interest at the expense of the dignity and integrity of the profession.

CONFIDENTIALITY
Confidentiality means keeping the information on the employer and clients, as secrets. It is one of the important aspects of team work.

Justification for Confidentiality
Confidentiality can be justified by various ethical theories. According to Rights-based theory, rights of the stakeholders, right to the intellectual property of the company are protected by this practice. Based on Duty theory, employees and employers have duty to keep up mutual trust. The Utilitarian theory

holds good, only when confidentiality produce most good to most people.

Act utilitarian theory focuses on each situation, when the employer decides on some matters as confidential.Further, the following moral principles also justify the concept of 'confidentiality'.

Respect for Autonomy
It means respecting the freedom and self-determination of individuals and organizations to identify their legitimate control over the personal information of themselves. In the absence of this, they can not keep their privacy and protect their self-interest

More on Confidentiality
Is Switching Job Ethical?
When persons change jobs (employers), what happens to their moral obligation? The obligation to protect the information does not cease, when one shifts to another employee. Otherwise, the former employee will reveal this information to the new employer or sell it to a competitor of the former employer.

The integrity of the employee, even upon switching the employer demands that he maintains confidentiality and does not to divulge the information. The professional integrity of engineers is more valuable than the loyalty to the current employer.

Many engineers value professional advancement than long-term tie and loyalty to a single employer. The engineers involved in research and development and expert contribution change jobs. Normally they are familiar with the innovative developments in the parent organizations.

For example, one manufacturing expert along with his colleagues as well as with some secret documents left General Motors and joined Volkswagen. This violation of trade secret, lead the V W to pay huge compensation to GM in cash and compulsion to buy parts from GM for seven subsequent years.Employees, who change jobs, will not able to withhold their knowledge and expertise. They are sought after only for their expertise.

They may not carry the papers and but their active brain always carry memories. Although some organizations hold that this is unethical, the individuals can not be prevented from divulging the facts to benefit the current employer. The courts have held a moral verdict.

Even though the previous employers had the right to maintain their trade secrets confidential,the personal rights of the employees, who switched job in pursuit of career advancement, had to be honored and balanced.

Management Policies
How can we protect the rights of the employers and at the same time recognize the genuine personal rights and other rights of the engineers/employees? Some of the management practices and their limitations are discussed here under:

1. One way is to restrict the future employment of employees, by using employment contracts at the time of their exit. Details such as the restriction on geographical location, time gap between the departure from one place and engagement with the other employer, and on the type of jobs that one can perform with future employer, are entered in to contracts. But such contracts have not been given legal sanction.

2. An incentive instead of threatening their rights by the employment contract, may offer some positive benefits in exchange for the restrictions listed. A lump sum post-employment payment or compensation over a specific period may offered as incentive to restrict him.

3. Another approach by the management is to effect tighter controls on internal information flow on trade secrets and other vital features. But this is likely to create a mutual distrust in the organization and to throttle the creativity of engineers involved in the research and development.

A better understanding between the ethical management and the professional responsibility of the engineers will fulfill both professional concerns and employee loyalty.

Video Content / Details of website for further learning (if any):

https://www.legalmatch.com/law-library/article/what-is-occupational-crime.html

Important Books/Journals for further learning including the page nos.:

Pofessional Ethics and Human values, New Age International(P) Limited, Publishers by R.S.Nagarazan, Page No :72 -73

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LECTURE HANDOUTS

BME

II/III

Course Name with Code   : **Professional Ethics and Human Values**
                                19HSS08

Course Teacher   :**Mrs.D.G.BeautlinVinola**

Unit: V Engineers' Responsibilities and Rights   Date of Lecture:

Topic of Lecture: Acceptance of Bribes/Gifts problem solving- Occupational Crimes

Introduction :
- Occupational crime refers to a crime committed by someone during the course of his or her employment.
- Also known as workplace crime, occupational crime encompasses a wide variety of criminal acts including: theft or embezzlement, money laundering, and the misuse of company property or information.

Prerequisite knowledge for Complete understanding and learning of Topic:
- Knowledge about employment
- Knowledge about occupational crime

Acceptance of Bribes/Gifts problem solving- Occupational Crimes

Occupational crime refers to a crime committed by someone during the course of his or her employment. Also known as workplace crime, occupational crime encompasses a wide variety of criminal acts including: theft or embezzlement, money laundering, and the misuse of company property or information.

The illegal conduct in occupational crimes originates in the employee's access to company data, property, or funds. For example, if an accountant at a large manufacturing business purposefully withholds information about company revenue from the Internal Revenue Service, the accountant has committed corporate tax fraud. In this scenario, the accountant has committed an occupational crime. He has used his access to sensitive company information (i.e., revenue reports) to defraud the IRS.

The most common form of occupational crimes are white-collar crime, which are financial crimes committed by business professionals. White-collar crime is nonviolent in nature, and often arises in circumstances where business professionals misuse company information for financial gains.

Occupational crime is not only limited to business professionals in the private sector. The corruption of government officials is also considered to constitute occupational crime. Occupational crime may also be industry specific. For example, a power plant that discards waste into streams in violation of environmental regulations has committed an occupational crime

An occupational crime may be committed by (1) wrong actions of a person through one's lawful employment or (2) crime by an employee to promote ones own or employer's interest or (3) theft or

pilferage by the employee or (4) damage to the property or an employee of one's organisation. These are also called *white-collared crimes.*

Many of these crimes are examples of conflicts of interest. These are motivated by the greed, corporate ambition, and misguided loyalty. Even the crime to promote the interests of the employer, is an occupational crime. Some of the examples of occupational crimes are:

1. Price Fixing

Fixing the bidding rate by companies, in collusion with other companies, especially for the contract/services, is called *price fixing*. This is an occupational crime, prevalent in electrical equipments industries, where there used to be a few contractors but large number of contracts. Because of this, public as well as the government incur huge loss. Two top officers of Westinghouse and GE, USA who were involved in price fixing without the knowledge of their Directors, were sentenced to imprisonment a few years back. These officers held that it was legal to fix price and even argued that this procedure is really beneficial to the people! However, the court did not accept this view.

2. Industrial Espionage

It means simply spying for personal or company benefits, e.g., in the Silicon Valley area, there are several company manufacturing computer chips, ICs, and microprocessors. There are a lot of engineers who are entrepreneurs and venture capitalists. The espionage is more prevalent here because of the following factors:

(a) The development of chips is extremely competitive and on fast track. Profit and loss can be made quicker.

(b) Manufacture of chips is very costly. Huge saving through reverse engineering could be made only by breaking open the competitors' gadgets or fast tests. Some organizations prefer to steal the design details through illegal means rather testing and development.

(c) The components involved are very small. Hence, pilferage or removal of gadgets could be done easily and without being caught.

(d) The crime detection and law enforcement are difficult and ineffective.

(e) Employees do not carry out the activities directly, but through engineers who were employees or through the weakest link in the supplier-producer chain.

3. Bootlegging

Manufacturing, selling or transporting products (liquor and narcotics) that are prohibited by law, is called *bootlegging*. In engineering context, it refers to working on projects which are prohibited or not properly authorized.

4. Endangering Lives (Occupational Hazards)

Industries who expose their employees to hazards usually escape penalties. Victims have the right to sue, but only to claim some monetary compensation. The *asbestos* industries in USA were responsible for the death of one lakh workers and 27 million workers afflicted with cancer, in the 80s. Even after 22 years since Bhopal gas tragedy, appropriate compensation has not been paid. Even the government could not bring to book the culprits for the crime committed.

Video Content / Details of website for further learning (if any):

https://www.legalmatch.com/law-library/article/what-is-occupational-crime.html

Important Books/Journals for further learning including the page nos.:
Pofessional Ethics and Human values, New Age International(P) Limited, Publishers by R.S.Nagarazan, Page No :78 -80

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LECTURE HANDOUTS

BME

II/III

Course Name with Code	: Professional Ethics and Human Values 19HSS08
Course Teacher	: Mrs.D.G.BeautlinVinola

Unit: V Engineers' Responsibilities and Rights   Date of Lecture:

Topic of Lecture: Whistle Blowing-types of whistle blowing- preventing whistle blowing.

Introduction :
- A whistleblower (also written as whistle-blower or whistle blower) is a person, usually an employee, who exposes information or activity within a private, public, or government organization that is deemed illegal, illicit, unsafe, or a waste, fraud, or abuse of taxpayer funds.

Prerequisite knowledge for Complete understanding and learning of Topic:
- Knowledge about information
- Knowledge about an organization

Whistle Blowing-types of whistle blowing- preventing whistle blowing.

There are four aspects of whistle blowing, namely:

1. Basis of disclosure: The basis for disclosure may be intentional, or under pressure from superiors or others not to disclose.
2. Relevance of topic: The whistle blower believes that the information is about a significant problem for the organization or its business ally. It can be a threat to the public or employees'health, safety and welfare or a criminal activity, or unethical policies or practices, or an injustice to the workers within the organization.
3. Agent: The person disclosing the information may be a current or former employee or a person having a close link to the organization.
4. Recipient: The person or organization, who receives the information, is in a position to remedy the problem or alert the affected parties. Usually, the recipients are not aware of the information fully or even partially.

Types

Based on the destination (recipient), whistle blowing is classified into types, as:

(a) Internal: In this case, the information is conveyed to a person within the organization, but beyond the approved channels.

(b) External: This happens when the information is transmitted outside the organization. The recipient may be a municipal chairman or member of legislature or minister. It becomes severe if the information reaches the press and through them the public. The damage is maximum and sometimes poses difficulty in remedying the situation.

Based on the origin or source (agent), this can be divided into three types, as follows:

(a) Open: The originator reveals his identity as he conveys the information. This information is reliable and true, but sometimes partially true.

(b) Anonymous: The identity is concealed. The information may or may not be true. But the agent anticipates perhaps some repression or threat, if identity is revealed.

(c) Partly anonymous (or partly open): Such a situation exists when the individual reveals his identity to the journalist, but insists that the name be withheld from others.

Video Content / Details of website for further learning (if any):

https://www.hrzone.com/hr-glossary/what-is-whistleblowing

Important Books/Journals for further learning including the page nos.:

Pofessional Ethics and Human values, New Age International(P) Limited, Publishers by R.S.Nagarazan, Page No :83 -84

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