



KEMENTERIAN PENDIDIKAN TINGGI

BACHELOR DEGREE IN MANUFACTURING ENGINEERING TECHNOLOGY (SUPPLY CHAIN MANAGEMENT) WITH HONOUR (INTRODUCTION TO ENGINEERING ETHICS)

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INFO



CASE STUDY



INTRODUCTION



ETHICS AND
LAWS



PERSONAL AND
PROFESIONAL
ETHICS

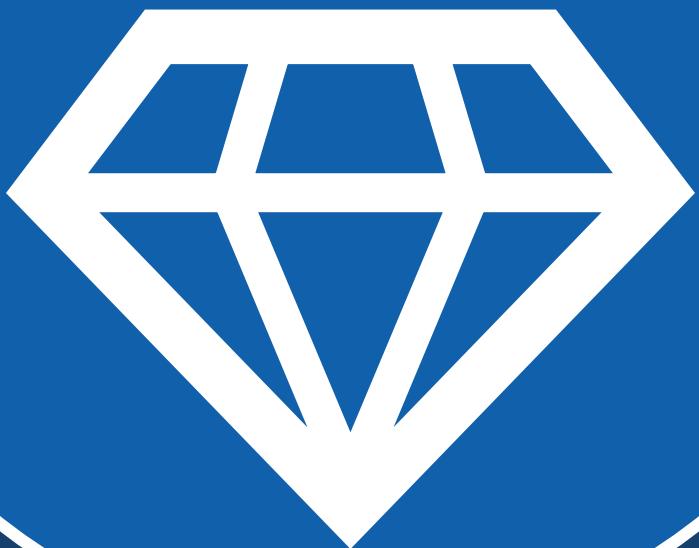


MICRO AND MACRO ETHICS



CONCLUSION

INTRODUCTION



ETHICS
AND
ETHICAL
INQUIRY

ENGINEERING
ETHICS

OBJECTIVE

ETHICS AND ETHICAL INQUIRY

ETHICS



Balance emotion
and Feeling

systematic approach to analyze, differentiate right or wrong decisions,
have understanding, good and bad, admirable with deplorable as related
to relationship and well being of all sentient beings

Active
Process

Normative Ethics

Meta Ethics

Descriptive Ethics



Engineering Ethics

- Study of policies, decisions and values that are desired morally in engineering research and practice
- Right and responsibility
- Descriptive sense (belief in a certain group of people and how they will act)
- Normative sense (justify value used and desirable option)

Engineering

- mathematical and natural science knowledge, gained by study, experience and require practice
- applied with judgement to develop ways
- to utilize the materials and forces of nature for the benefit of mankind

Engineer

- Person that turns ideas into reality by creating useful products and systems
- BEM and Professional Engineer Requirement, case study on Ethical Awareness

OBJECTIVE

To find the origin of ethics, ethical thought and relationship of ethics and laws

To describe similarities and differences of personal and professional ethics

To analyse micro ethics and macro ethics issues

ETHICS AND LAWS



ORIGIN
ETHICAL
THOUGHT

ETHICAL
PERSPECTIVE

RELATIONSHIP

DIFFERENCES

ORIGIN OF ETHICAL THOUGHTS

- **Ethics** or moral philosophy is a branch of philosophy that "involves systematizing, defending, and recommending concepts of right and wrong behaviour."
- The English word ethics is derived from the Ancient Greek word *ēthikós* (ἠθικός), meaning "relating to one's character", which itself comes from the root word *ēthos* (ἠθος) meaning "character, moral nature".
- Different ethical theories present different responses to the inquiry.



DIFFERENT PERSPECTIVE OF ETHICS

PERSPECTIVE	REVIEW
Ancient Greek Ethics	Socrates, as depicted in Plato's Republic, expresses the best great as the otherworldly "form of good itself". The great, Socrates says, resembles the sun.
Nature Law Ethics	In the Middle Ages, Thomas Aquinas built up a blend of Biblical and Aristotelian ethics called common law theory, according to which the nature of humans determines what is right and wrong.
Kantian Ethics	Immanuel Kant, in the 18th century, contended that right and wrong are established on the job, which gives a Categorical Imperative to us.
Islamic Ethics	Islam is a decent religion because in Islam it upholds the importance of ethics, and morality. Morality is the most important thing in human life because morality includes all understandings of behaviour, habits, temperament, good and bad human character.

RELATIONSHIP BETWEEN LAW AND ETHICS

LAW

- Established by the government
- Organised to preserve social order
- Punishment or penalty will be given

ETHICS

- Advices individuals on what is good or bad
- Teach how to behave and make a decision
- How a person live and interact with other people

FOUR TYPES OF RELATIONSHIP BETWEEN LAW AND ETHICS

1. **LEGAL AND ETHICAL**
2. **LEGAL BUT UNETHICAL**
3. **ETHICAL BUT ILLEGAL**
4. **UNETHICAL AND ILLEGAL**



Difference between law and ethics

LAW	ETHICS
CONSISTS OF RULES AND REGULATION	CONSISTS OF GUIDELINES AND VALUES
EXPRESSED IN WRITTEN FORM	IT CANNOT BE FOUND
FORMED BY GOVERNMENT	REGULATED BY HUMAN
PRESERVE SOCIAL ORDER AND PEACE	INDIVIDUAL TO DETERMINE WHAT IS RIGHT OR WRONG
REGULATES THE ENTIRE SOCIETY AND THE ACTIONS	STUDY OF NORMAL HUMAN BEHAVIOUR

PERSONAL AND PROFESSIONAL ETHICS



DEFINITION
AND
SIMILARITIES

DIFFERENCES

PERSONAL ETHICS	PROFESSIONAL ETHICS
<p>A person associates with in respect to individuals or people and situations that they deal with in everyday life.</p>	<p>A person must adhere to in their professional life with regard to relationships and company dealings.</p>

SIMILARITY

6 codes in Industrial Ethics book:

1. AAES
2. NSPE
3. Project Management Institute (PMI)
4. Association for the Advancement of Cost Engineering (AACE International)
5. American Society of Civil Engineers (ASCE)
6. Institute of Electrical and Electronic Engineers (IEEE)



DIFFERENCES

PERSONAL ETHICS	PROFESSIONAL ETHICS
Requires personal ethical and values	Company have sets rules on the employee
Learned since childhood by relatives, friends or family.	Learned as they became part of the company field.
Not conforming to other people's distress.	Not adhering too much because that may destroy our professional reputation.
Personal needs are satisfied by following personal ethics.	Professional needs are satisfied by following professional ethics.
Example: Open minded, Integrity, Transparency, Kindness, Fairness, Friendliness, Respect each others, Commitment	Example: Worker Safety, Punctuality, Industry Standards, Worker Treatment, Least Harm

MICRO AND MACRO ETHICS



CLASSIFICATION

**CATEGORY
(ISSUE)**

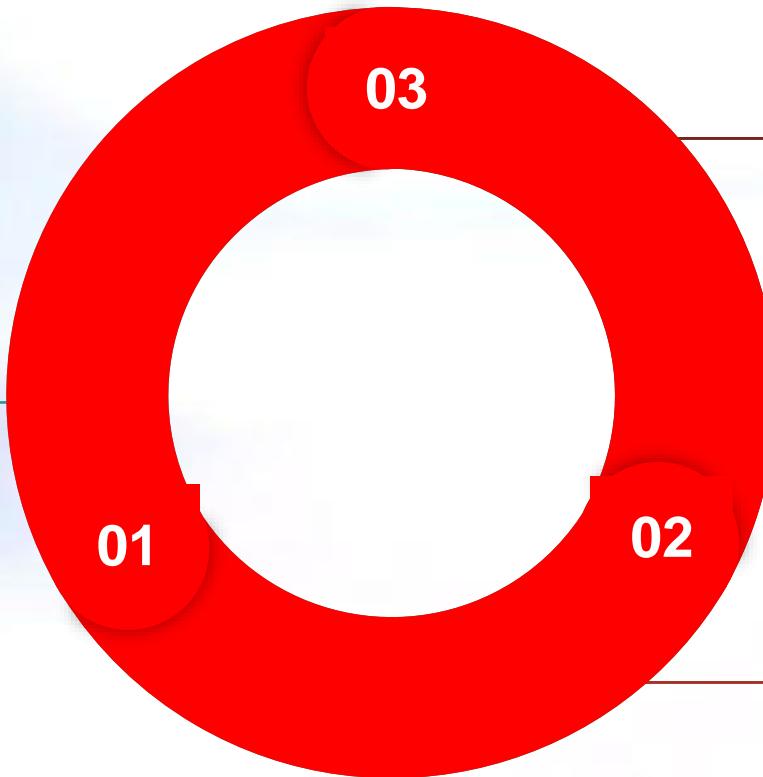
DEFINITION

**ISSUE
1**

**ISSUE
2**

DEFINITION OF MICRO & MACRO

- Micro-ethics focuses on professionalism related concerns such as credibility, fairness and reliability, risk and safety..
- Macro-ethics extends the coverage to include concerns related to the environmental effects of engineering or the engineering social context.



➤ Macro-ethics is concerned with the common responsibility of the engineering community in terms of social responsibility and technology decision in society

➤ Micro-ethics deals with societies and the internal relationships of the engineering profession. Micro-ethical decision procedures are always intuitive and can even go unrecognised at the time

CLASSIFICATION MICRO & MACRO



ISSUES OF MICRO AND MACRO ETHICS

ISSUES

Design Competition
(Credit for engineering work)

Conflict of Interest
(Review and Approval of Work by
Subordinate)

Design Competition
(Credit for engineering work)

ISSUE	DISCUSSION	CONCLUSION
<p>1. Engineer A</p> <ul style="list-style-type: none"> Maintained to design a bridge as part of an elevated highway system. <p>2. Engineer B</p> <ul style="list-style-type: none"> A structural engineer with expertise in horizontal geometry, superstructure design and elevations to perform certain aspects of design services. <p>3. Competition</p> <ul style="list-style-type: none"> The engineers enter the bridge design into a national organization's bridge competition. <p>4. Engineer A get credit and win. Engineer B does not receive any credit for his part.</p>	<p>1. Illegal</p> <ul style="list-style-type: none"> action of Engineer A for not telling the national organization's bridge competition about the masterpiece of the design bridge is from Engineer B and himself. <p>2. Unethical</p> <ul style="list-style-type: none"> Engineer B action because not telling the truth about the whole bridge design idea especially in the critical elements of the design. <p>3. Action should be taken.</p> <ul style="list-style-type: none"> Engineer A should tell the organization of competition to give credit in part of design of the bridge to Engineer B. 	<p>- Micro ethics because it involves the truthfulness of engineers.</p>

(BER : Case 92-1)

Conflict of Interest

(Review and Approval of Work by Subordinate)

ISSUE	DISCUSSION	CONCLUSION
<ol style="list-style-type: none">1. Engineer A<ul style="list-style-type: none">• Professional engineer• Works as the director of the local government building department.• Has a part-time sole engineering practice and prepares a set of structural engineering drawings for Client X.• The drawings must be approved by the local building department.• Does not participate in the review or approval of the drawings.2. Engineer B<ul style="list-style-type: none">• Professional engineer.• Engineer A's assistant.• Approves the engineering drawings prepared by Engineer A.	<ol style="list-style-type: none">1. Unethical<ul style="list-style-type: none">• For Engineer A to provide the services in the manner indicated, because he cannot require his subordinates to approve his work.• For Engineer B to review and approve the engineering drawings that were prepared by Engineer A.3. Action as an Engineer.<ul style="list-style-type: none">• Engineer A did not act as a faithful agent or trustee to his employer because he did not notify and obtain consent from his superiors within the local governmental building department.	<ul style="list-style-type: none">- Micro ethics related to the professional relations of Engineer between his employer and subordinates.

CONCLUSION

- The assessment of ethics in this paper uncovers the essential part moral standards play in society.
- Personal and professional ethics impact one another and give a sign of individual character and our activities and decisions in any circumstance characterize how society sees us.
- Engineering leadership is a balance between adherence to individual duties, as articulated in the codes of ethics, and societal needs; therefore, it must embody both micro- and macro ethics.

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