

1. Course Code

2200

2. Course Title

Engineering Ethics

3. Teacher

Maruf BAIG

4. Term

S1 Monday 4-5

5. Course Overview and Objectives

Engineers are part of the society hence need to reflect the ethical standards of the profession itself while working with others which categorically includes resources with technical and non-technical background. This course will enlighten the students regardless of their major with the standards Engineers need to comply in a non-technical manner hence compatible to all disciplines. The course will bring in on the ground ethical issues with an invitation to open discussion within the time frame and deliverables to accomplish.

6. Course Goals (Attainment Targets)

- (1) Students equipped with ethical decision making framework to face ethical challenges
- (2) Students enlightened in balancing business exposure, social and individual responsibility
- (3) Student are well aware of the wide range of sources explaining ethical course of actions

7. Correspondence relationship between Educational goals and Course goals

Educational goals of the school			Course Goals
High level ICT skills	Basic academic skills		3
	Specialized knowledge and literacy		3
Human skill (Tankyu skill)	Ability to continually improve own strengths		1-3
	Ability to discover and resolve the problem in society	Problem setting	1-3
		Hypothesis planning	1-3
		Hypothesis testing	1-3
		Practice	1-3
	Fundamental Competencies for Working Persons	Ability to step forward	1-3
		Ability to think through	1-3
		Ability to work in a team	1-3
Professional ethics			1-3

8. Course Requirements (Courses / Knowledge prerequisite for this course)

None

9. Textbooks (Required Books for this course)

None

10. Reference Books (optional books for further study)

As needed

11. Evaluation

Goals	Evaluation method & point allocation					
	examination	Quiz	Reports	Presentation	Deliverables	Other
(1)	○	○		○		
(2)		○		○		
(3)		○				
(4)		○				
(5)						
(6)						
Allocation	30	20		50		

12. Notes

13. Course plan

(Notice) This plan is tentative and might be changed at the time of delivery

Lesson 1: Professional Ethics

Lecture/Discussion, 90 mins

The key message of this lecture will be to enlighten the students that personal morality is different to that of the professional ethics. There will be examples from different professional standards to clarify in an interactive way.

Lesson 2: Responsibility in Engineering

Lecture/Discussion, 90 mins

Responsibility is deeply related to accountability, both for what an engineer does in the

present and future and for what an engineer has done in the past.

- Engineering standards
- The standard of care
- Design standards

Lesson 3: Technology and Society

Lecture/Discussion, 90 mins

Engineers should take an essential angle toward technology, appreciating and taking pride

in its advantages whereas being awake to the issues it will produce.

- Thinking about technology and society
- The promise and perils of technology
- Influence of computer technology

Lesson 4: Trust and Reliability	Lecture/Discussion, 90 mins
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This lesson focuses on issues regarding the importance of trustworthiness in engineers:

honesty, confidentiality, intellectual property, witnessing by experts, public communication,
and conflicts of interest.

- Honesty
- Confidentiality
- Intellectual property

Lesson 5: Risk and Liability in Engineering	Lecture/Discussion, 90 mins
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Risk is the product of the probability and magnitude of harm for engineers. They have to

guard themselves against unjust legal responsibility for harm to danger while additionally

defending the public from risk.

- Different approaches to risk
- Communicating risk and public policy
- Engineer's liability for risk

Lesson 6: Engineers in Organizations	Lecture/Discussion, 90 mins
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Engineers and managers have different perspectives, both of which are legitimate, and it's

beneficial to distinguish between decisions made by managers and decisions made by engineers.

- Engineers and managers
- Being morally responsible in an organization
- Proper engineering and management decisions

Lesson 7: Engineers and the Environment	Lecture/Discussion, 90 mins
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Rules for engineers are increasingly including provisions about the environment, but their

implications for many environmental issues are not clear.

- Criteria for a clean environment
- Go beyond the law
- Respect for nature

Lesson 8: Global Issues	Lecture/Discussion, 90 mins
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We live in an age when social changes have been taking place more rapidly than at any time

in the past. The scale and range of projects undertaken have greatly increased over those

undertaken in previous centuries.

- Globalization
 - Cross-cultural issues
 - Work in an international society
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Lesson 9: Case Study 1	Discussion, 90 mins
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Analysis of case examples will be carried out through classroom discussions.

Lesson 10: Case Study 2	Discussion, 90 mins
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Analysis of case examples will be carried out through classroom discussions.

Lesson 11: Case Study 3	Discussion, 90 mins
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Analysis of case examples will be carried out through classroom discussions.

Lesson 12: Case Study 4	Discussion, 90 mins
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Analysis of case examples will be carried out through classroom discussions.

Lesson 13: Group Presentation 1	Presentation, 90 mins
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Students will be assigned with specific thematic case study and they will present their arguments as per ethical decision making framework.

Lesson 14: Group Presentaton 2	Presentation, 90 mins
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Students will be assigned with specific thematic case study and they will present their arguments as per ethical decision making framework.

Lesson 15: Review and Exam	Review 60 mins, Exam 30 mins
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Review of the materials covered followed by an exam. It will be a combination of lecture for an hour and 30 mins exam.
