

# MNE2066: ENGINEERS IN SOCIETY

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## Effective Term

Semester A 2025/26

## Part I Course Overview

### Course Title

Engineers in Society

### Subject Code

MNE - Mechanical Engineering

### Course Number

2066

### Academic Unit

Mechanical Engineering (MNE)

### College/School

College of Engineering (EG)

### Course Duration

One Semester

### Credit Units

3

### Level

B1, B2, B3, B4 - Bachelor's Degree

### Medium of Instruction

English

### Medium of Assessment

English

### Prerequisites

Nil

### Precursors

Nil

### Equivalent Courses

MNE4066 Professional Engineering Practice

### Exclusive Courses

Nil

## Part II Course Details

### Abstract

This course provides an over-arching coverage of the role of engineers in society. It strengthens students' assimilation of fundamental engineering and technical subject matters of a BEng programme and their appreciation of modern engineering's economic, political, environmental and ethical implications.

With the increasing integration of the industrial fabrics of Hong Kong and Southern China, the course will also examine on the role of engineering in the past and future development of the mechanical, manufacturing, power generation and healthcare industry in Hong Kong but with a global perspective.

### Course Intended Learning Outcomes (CILOs)

CILOs		Weighting (if app.)	DEC-A1	DEC-A2	DEC-A3
1	Explain the impact of technology and engineering on the daily life, economy, and politics of today's society.		x	x	
2	Discuss the role of an engineer in environmental protection and health and safety in the workplace.		x	x	
3	Distinguish the legal responsibilities and ethical obligations of a professional engineer.		x	x	
4	Describe the role of engineering in the development of related industries in Hong Kong and China.			x	
5	Communicate effectively the outcome of group work and individual assignment.			x	

#### A1: Attitude

Develop an attitude of discovery/innovation/creativity, as demonstrated by students possessing a strong sense of curiosity, asking questions actively, challenging assumptions or engaging in inquiry together with teachers.

#### A2: Ability

Develop the ability/skill needed to discover/innovate/create, as demonstrated by students possessing critical thinking skills to assess ideas, acquiring research skills, synthesizing knowledge across disciplines or applying academic knowledge to real-life problems.

#### A3: Accomplishments

Demonstrate accomplishment of discovery/innovation/creativity through producing /constructing creative works/new artefacts, effective solutions to real-life problems or new processes.

### Learning and Teaching Activities (LTAs)

LTAs		Brief Description	CILO No.	Hours/week (if applicable)
1	Lecture	Made up of a mixture of lectures and group work. Professional engineers, eminent industrialists and ICAC officers will be invited as guest lecturers to enrich students' learning. Students' learning on each lecture topic is complemented by selected case studies, assignments and follow-up group work or individual assignments according to their Majors.	1, 2, 3, 4	3 hrs/week

**Assessment Tasks / Activities (ATs)**

ATs	CILO No.	Weighting (%)	Remarks ("- " for nil entry)	Allow Use of GenAI?	
1	Group Work	1, 2, 3, 4, 5	40	Case Submission + Presentation	Yes
2	Individual Assignments	1, 2, 3, 4, 5	20	Case analyses	Yes
3	Class Participation	1, 2, 3, 4, 5	10	Attendance and class participation	Yes

**Continuous Assessment (%)**

70

**Examination (%)**

30

**Examination Duration (Hours)**

1.5

**Minimum Continuous Assessment Passing Requirement (%)**

30

**Minimum Examination Passing Requirement (%)**

30

**Additional Information for ATs**

For a student to pass the course, at least 30% of the maximum mark for both coursework and examination should be obtained.

**Assessment Rubrics (AR)****Assessment Task**

Group Work

**Criterion**

1.1 Ability to Identify and Balance between engineering development with broad spectrum of non-engineering issues including but not limited to cultural, professional, legal, social, economic, safety and health, and environmental aspects.

**Excellent (A+, A, A-)**

High

**Good (B+, B, B-)**

Significant

**Fair (C+, C, C-)**

Moderate

**Marginal (D)**

Basic

**Failure (F)**

Not even reaching marginal levels

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**Assessment Task**

Individual Assignments

**Criterion**

2.1 Ability to Identify issues related to environment, safety, ethnics, and impact of technology when developing an engineering product or service.

2.2 Ability to Balance between engineering ethnics and competitiveness.

**Excellent (A+, A, A-)**

High

**Good (B+, B, B-)**

Significant

**Fair (C+, C, C-)**

Moderate

**Marginal (D)**

Basic

**Failure (F)**

Not even reaching marginal levels

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**Assessment Task**

Examination

**Criterion**

3.1 Ability to identify broad spectrum of non-engineering issues including but not limited to cultural, professional, legal, social, economic, safety and health, and environmental aspects.

3.2 Ability to apply engineering ethics in engineering related works.

3.3 Ability to balance between engineering ethics and competitiveness.

**Excellent (A+, A, A-)**

High

**Good (B+, B, B-)**

Significant

**Fair (C+, C, C-)**

Moderate

**Marginal (D)**

Basic

**Failure (F)**

Not even reaching marginal levels

### Additional Information for AR

Note: For a student to pass the course, at least 30% of the maximum mark for both coursework and examination should be obtained.

## Part III Other Information

### Keyword Syllabus

- Related industrial environment of Hong Kong, China and the world.
- Engineers in private practices and public sectors - safety and health, professional ethics and legal responsibilities.
- Innovative and creative design – patents and copyrights.
- Engineers in society – environment protection and social responsibilities.

### Reading List

#### Compulsory Readings

Title	
1	Nil

#### Additional Readings

Title	
1	Charles E. Harris, Michael S. Pritchard & Michael J. Rabins, Engineering Ethics: Concepts and Cases, Belmont, California: Wadsworth, ISBN: 978-0495502791.
2	Charles B. Fleddermann, Engineering Ethics, Upper Saddle River: Prentice Hall, ISBN: 9780132145213.
3	Carl Mitcham & Shannon R. Duval, Engineer's Toolkit: A First Course in Engineering-Engineering Ethics, Upper Saddle River, N.J.: Prentice Hall, ISBN: 978-0805364361.