SEE4001: ENGINEERS IN SOCIETY

Effective Term
Semester A 2025/26

Part I Course Overview

Course Title
Engineers in Society

Subject Code
SEE - School of Energy and Environment
Course Number
4001

Academic Unit
School of Energy and Environment (E2)

College/School
School of Energy and Environment (E2)

Course Duration
One Semester

Credit Units
1

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

Medium of Instruction
English

Medium of Assessment
English

Prerequisites
Nil

Precursors
Nil

Equivalent Courses
Nil

Exclusive Courses
Nil

Part II Course Details

Abstract
The course is designed to provide students with knowledge in the role of professional engineers in practice and their responsibilities towards the profession, colleagues, employers, clients, the public and the contemporary society. Eminent

professionals are invited to deliver some of the lectures, aiming to provide students with an insight into the roles and responsibilities of practicing professional engineers at work. It aims to enable students to:

a. Appreciate the historical context of modern technology and the nature of the process whereby technology develops and its relationship between technology and environment and the implied social costs and benefits.
b. Explain the social, political, legal, economic and ethical responsibility and accountability of a profession in engineering and the organizational activities of professional engineering institutions.
c. Know about the major safety, health, environment, ecology and sustainability considerations which influence engineering judgements.
d. Have knowledge of the capacity of energy and environmental engineers in the innovative development of green and low carbon economy.

Course Intended Learning Outcomes (CILOs)

	CILOs	Weighting (if app.)	DEC-A1	DEC-A2	DEC-A3
1	Discover and evaluate the effects on the use of technology relating to social, cultural, economic, legal, health and safety, environment, welfare and daily life of today's society.	20	x	x	
2	Explain the importance of professional training of institutions, professional conduct, ethical obligations and legal responsibilities in various local and overseas engineering activities.	20			
3	Discuss and assess the role of engineering in environmental and ecological protection, and health and safety in the workplace.	20			
4	Describe the capacity of energy engineers in the innovative development of green, clean, safe and sustainable energy business/industry and low carbon economy.	40			

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	Students will engage in lecture activities in which professional engineers, eminent industrialists and other relevant professionals are invited as guest lecturers to share their experience.	1, 2, 3, 4	1

Additional Information for LTAs

The TLAs are made up of a mixture of lectures and a series of group work and individual assignments in tutorials. Professional engineers, eminent industrialists and ICAC officers will be invited as guest lecturers to enrich students' learning of the CILO 1-4. Students' learning on each lecture topic is complemented by selected case studies and follow-up group work or individual assignments. Tutorials provide the forum for case analyses, topical discussions and interactions among students and tutor.

Assessment Tasks / Activities (ATs)

	ATs	CILO No.	Weighting (%)	Remarks ("-" for nil entry)	Allow Use of GenAI?
1	Assignments Students' learning on the topic from lectures is complemented by selected case studies and follow-up group or individual assignments.	1, 2, 3, 4	100	-	Yes

Continuous Assessment (%)

100

Examination (%)

0

Minimum Continuous Assessment Passing Requirement (%)

30

Additional Information for ATs

Examination duration: N/A Percentage of continuous assessment, examination, etc.: 100% by continuous assessment To pass a course, a student must do ALL of the following: 1) obtain at least 30% of the total marks allocated towards continuous assessment (combination of assignments, pop quizzes, term paper, lab reports and/ or quiz, if applicable); 2) obtain at least 30% of the total marks allocated towards final examination (if applicable); and 3) meet the criteria listed in the section on Assessment Rubrics.

Assessment Rubrics (AR)

Assessment Task

Assignments

Criterion

Ability to describe role and responsibilities of professional engineers.

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

Part III Other Information

Keyword Syllabus

- Impact of technology on society: Innovation and creativity, the history and the trend of technology on the social and cultural on society
- Role of professional engineers in practice and their responsibilities towards the profession, colleagues, employers, clients and the public
- Capacity of energy and environmental engineers in the development of clean and sustainable energy industry and low carbon economy

Reading List

Compulsory Readings

	Title
1	Charles E. Harris, Michael S. Pritchard & Michael J. Rabins, Ray James, Elaine Englehardt, Engineering ethics: concepts and cases, 6th ed. Publ. Boston, MA : Wadsworth Cengage Learning, 2018.
2	John Dustin Kemper, Engineers and their profession 5th ed., Publ. Philadelphia : Saunders College Pub., 2000.
3	Carl Mitcham, & R. Shannon Duval, Engineering ethics, Publ. Upper Saddle River, N.J. : Prentice Hall, 2000.
4	Johnson, F. Stephen, Gostelow, J.P. and King, W. Joseph, Engineering and society challenges of professional practice, Upper Saddle River, N.J, Prentice Hall, 2000.
5	Hjorth, Linda; Eichler, Barbara; Khan Ahmed; Morello, John; Technology and Society: Issue for the 21st Century, 3rd ed. Pearson 2007.
6	Munasinghe, M. Sustainable Development in Practice, New York: Cambridge, 2009.

Additional Readings

	Title
1	Engineers by The Hong Kong Institution of Engineers
2	Times
3	South China Moring Post
4	China Daily