

City University of Hong Kong

Information on a Course
offered by Department of Electronic Engineering
with effect from Semester A in 2009/2010

This form is for completion by the Course Co-ordinator/Examiner. The information provided on this form will be deemed to be the official record of the details of the course. It has multipurpose use: for the University's database, and for publishing in various University publications including the Blackboard, and documents for students and others as necessary.

Please refer to the Explanatory Notes attached to this Form on the various items of information required.

Part I

Course Title:	Engineers in Society
Course Code:	EE3014
Course Duration:	One Semester (13 weeks)
No. of credits:	2
Level:	B3
Medium of Instruction:	English
Prerequisites (<i>Course Code and Title</i>):	At least 43 CUS have been completed
Precursors (<i>Course Code and Title</i>):	Nil
Equivalent Course (<i>Course Code and Title</i>) :	Nil
Equivalent to the Old Course (<i>Course Code and Title</i>) :	Nil
Exclusive Courses: (<i>Course Code and Title</i>):	Nil

Part II

1. Course Aims:

The course aims to provide students with knowledge in the obligations, roles and professional conduct of an engineer in a modern society. It stimulates students to have a basic awareness of the legal, environmental and socio-economic factors (economic, ethics, etc.) which have a significant impact on engineering design. Eminent professionals are invited to deliver some of the lectures, aiming to provide students with an element of social analysis adequate to the society in which they will work in.

2. Course Intended Learning Outcomes (CILOs)

(state what the student is expected to be able to do at the end of the course according to a given standard of performance)

Upon successful completion of this course, students should be able to:

No.	CILOs
1.	Recognise and appreciate the socio-economic and basic technological issues relating to the local industry – Hong Kong, Pearl River Delta and Greater China.
2.	Recognise the impact of technology on the society, economy, and politics of the world. Appreciate the responsibilities of environmental protection and the duties of securing health and safety in the workplace.
3.	Describe the basic principles in product engineering, current quality assurance practices, and business fundamentals for engineers.
4.	Characterize and analyze the important kinds of ethical issues and rules of conduct for the profession associated with contemporary science and technology.

3. Teaching and Learning Activities (TLAs)

Indicative of the possible activities and tasks designed to facilitate students' achievement of the CILOs. Fine details will be provided for students upon the commencement of the course. (Please delete in final record.)

CILO 1	Teaching activities are primarily based on lectures. A selection of lectures of current interest is delivered by guest lecturers who are industrialists from Hong Kong, Pearl River Delta and Greater China. Tutorials are followed by providing class interaction between lecturers and students. During tutorials, interactive questions and answers can strengthen students' comprehension, and ensure students have a strong understanding in the related topics.
CILO 2	Teaching activities are primarily based on lectures. A selection of lectures of current interest is delivered by guest lecturers who are the eminent members of the HKIE community. Discussions in the lectures and tutorials encourage the students to develop the ability to understand the impact of technology on our lives and on succeeding generations. Take-home assignments on specific topics are given to the students to inspire their critical analysis and social awareness.
CILO 3	Teaching activities are primarily based on lectures. A selection of lectures of current interest is delivered by guest lecturers who are eminent practitioners in industry and commerce. Tutorials are followed by providing class interaction between lecturers and students. During tutorials, interactive questions and answers can strengthen students' comprehension, and ensure students have a strong understanding in the related topics.
CILO 4	Teaching activities are primarily based on lectures. A selection of lectures of current interest is delivered by guest lecturers who are the officials from ICAC and The Continuing Professional Development Committee of the HKIE. Case studies are used to illustrate and examine some of the ethical problems that technological development has presented for humanity. Assignments are given to students to allow them time to investigate and analyze some practical cases on the ethical issues.

Timetabling Information

Pattern	Hours
Lecture:	20
Tutorials:	6
Laboratory:	0
Other activities:	0

4. Assessment Tasks/Activities

Indicative of the possible activities and tasks designed to assess how well the students achieve the CILOs. Fine details will be provided for students upon the commencement of the course. (Please delete in final record.)

	Type of assessment tasks	Weighting (if applicable)
Continuous Assessment	Tests	30%
Examination	Written exam	70% 2 hours

Remarks: To pass the course, students are required to achieve at least 30% in the examination.

5. Grading of Student Achievement:

Refer to *Grading of Courses in the Academic Regulations (Attachment)* and to the *Explanatory Notes*

Letter Grade	Grade Point	Grade Definitions
A+	4.3	Excellent:
A	4.0	
A-	3.7	
B+	3.3	Good:
B	3.0	
B-	2.7	
C+	2.3	Adequate:
C	2.0	
C-	1.7	
D	1.0	Marginal:
F	0.0	Failure:

6. Constructive Alignment with Programme Outcomes

PILO	How the course contribute to the specific PILO(s)
6	Awareness of professional and ethical responsibilities.
8	Knowledge in contemporary issues and an awareness of the impact of engineering solutions in a broad, global and societal context.

Part III

Keyword Syllabus:

1.1 Introduction to Local Industry

Overview of electronics, materials and IT industries in Hong Kong, and mainland China. The interaction and link of local industry with the Pearl River Delta, and Greater China, Asia Pacific Region, Europe, North America and other newly industrialized countries. Current socio-economic issues in local industry, and its impact on engineering and manufacturing technology.

1.2 Society and Engineering

Overview and analysis of the economic, political and social structure of Hong Kong in relation to engineering activities. The role and obligation of an engineer towards society.

1.3 Introduction to Product Engineering

Current quality assurance practices in Hong Kong. Overview of local product engineering skills: integration of design, research, development, production, marketing and sales. Technology transfer. Market competition: price, quality, delivery and product.

1.4 Business Fundamentals for Engineers

Product Life Cycle, Introduction to fundamental elements of business in the engineering sector.

Overview of Sales / Marketing management for technical products. Selected case examples.

1.5 Ethics in Practice

Professional ethics are important to engineers, Offering and acceptance of illegal advantages, Preservation of confidential information, Avoid conflicts of interest.

1.6 Health and safety

Engineer's duties for securing the health, safety and welfare of persons at work, for protecting others against risks to health or safety in connection with the activities of persons at work, for controlling the keeping and use and preventing the unlawful acquisition, possession and use of dangerous substances, and for controlling certain emissions into the atmosphere.

1.7 Environmental Control

Overview of methods, products, and technologies to reduce, reuse, and recycle industrial wastes at the point of generation. Strategies may include, but are not limited to: process changes, separations, feedstock substitutions, product modifications and reformulations, and recovering and treating process wastes for reuse on-site or by another company.

1.8 Topics of current interest

A selection of about 6 topics of current interest is delivered by guest lecturers who are eminent practitioners in industry and commerce. These may vary from year to year as the guest lecturers may change. For example, the topics may include the art of technical sales, knowledge based economy, public speaking for engineers, TRIZ as means of systematic product innovations, how to build up a charming relationship in professions.

Recommended Reading:

L. S. Hjorth, B. A. Eichler, A. S. Khan, J. A. Morello: Technology and Society – issues for the 21st century and beyond. (Pearson, 3rd edition, 2008)

Chengi Kuo: Business Fundamentals for Engineers, (McGraw-Hill, 1992)

J. D. Kemper: Engineers and Their Profession, (3rd Ed. 1982)

Online Resources (if any)

Website of HKIE <http://www.hkie.org.hk/~Eng/html/home/index.asp>

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