Course Title: Engineers in Society

Course Code: EE3014

Units: 2

Level: B3

Course Aims & Objectives:
To examine the obligations, roles and professional conduct of an engineer in a modern society. To stimulate a basic awareness of the legal, environmental and socio-economic factors (economic, etc) which have a significant impact on engineering design. To provide the students with an element of social analysis appropriate to the society in which they will be expected to work.

Intended Learning Outcomes:
On completion of this course, the students will be able to:

1. Understand and appreciate the socio-economic and basic technological issues relating to the local industry – Hong Kong, Pearl River Delta and Greater China.
2. Be aware of the impact of technology on society, and of the responsibilities and obligations of professional engineers towards Hong Kong.
3. Acquire knowledge of the basic principles in product engineering, current quality assurance practices, and business fundamentals for engineers.

Syllabus:
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.

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.

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.

Business Fundamentals for Engineers

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.

**Laboratory Experiment:**
Nil

**Teaching pattern:**

*Duration of course:* 1 semester

*Suggested lecture/tutorial/laboratory mix:*

*Lecture Hour:* 26 hours

*Tutorial Hour:* N/A

*Laboratory Hour:* N/A

**Assessment pattern:**

*Examination duration:* 2 hours, at the end of the semester

*Percentage of coursework, examination, etc.::* 30% CW; 70% Exam

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

Assessment is 70% by a 2-hour closed book examination which will test the students' understanding of taught lecture topics and seminars. The other 30% is by coursework in the form of assignments, either individual and / or group basis, which will be designed to assess the students' understanding of lectures and seminars given during the Semester. The coursework will be based primarily on general technical, project management and socio-economic knowledge rather than on any specific engineering discipline.

**Pre-requisites: (please quote course code & title)**
Nil

**Pre-cursor: (please quote course code & title)**
Nil

**Exclusive Course: (please quote course code & title)**
Nil

**Equivalent Courses: (please quote course code & title)**
Nil

**Equivalent to the Old Course Code and Title: (please quote course code & title)**
Nil

**Textbook:**

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

**Reference Book:**
The Hong Kong Computer Society

The IT Magazine
Times Magazine

Newsweek Magazine

Current Hong Kong Government publications on the regulations of environmental issues and industrial safety

