CA2745: ENGINEERS AND SOCIETY

Effective Term
Semester A 2022/23

Part I Course Overview

Course Title
Engineers and Society

Subject Code
CA - Civil and Architectural Engineering
Course Number
2745

Academic Unit
Architecture and Civil Engineering (CA)

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
BC2745/BC2745P Engineers and Buildings

Exclusive Courses
Nil

Part II Course Details

Abstract

The course provides the knowledge on construction project process and control system, construction cost, health, safety and environmental issues (such as building sustainability), enhance the concern for professional ethnics and related knowledge of students for handling construction projects, and appreciate various issues in the built environment.

Course Intended Learning Outcomes (CILOs)

	CILOs	Weighting (if app.)	DEC-A1	DEC-A2	DEC-A3
1	explain the construction project process from initiation, feasibility study, design, contract to implementation stages and the engineers' role and responsibility in each stage;			x	
2	communicate effectively with various parties in the construction industry;		x		
3	appreciate the factors affecting the expedition of construction projects;		x		
4	practice as a competent engineer in compliance with the managerial, social and ethical responsibilities.		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.

Teaching and Learning Activities (TLAs)

	TLAs	Brief Description	CILO No.	Hours/week (if applicable)
1	Lectures; seminars	Introduce the essential concepts of multidisciplinary construction process and control system; and economic, legal, health, safety, environmental and ethical issues in the engineering construction and development	1, 2, 3, 4	

2	Tutorials; site visits	Explore and discuss the contemporary trends, mechanisms and concerns of construction projects and built environment through hand-on exercises, case studies or site visits.	1, 2, 3, 4	

Assessment Tasks / Activities (ATs)

	ATs	CILO No.	Weighting (%)	Remarks (e.g. Parameter for GenAI use)
1	Mid-term test	1, 2, 3, 4	25	
2	Assignment	1, 2, 3	25	

Continuous Assessment (%)

50

Examination (%)

50

Examination Duration (Hours)

2

Assessment Rubrics (AR)

Assessment Task

Mid-term test

Criterion

1. ABILITY to RECOGNIZE and EXPLAIN the key concepts, mechanisms, and concerns of the built environment development and construction process

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

Assessment Task

Assignment

Criterion

1. CAPACITY to INQUIRE and ANALYSE the issues and relevant information and references with respect to given scenarios and context
2. ABILITY to PRODUCE and ARTICULATE rational, substantiated and original discussion and/or suggestion

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

Assessment Task

Examination

Criterion

1. ABILITY to EXPLAIN and DISCUSS the key concepts, framework, mechanisms, and concerns of the built environment development and construction process

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

Construction control system and regulations. Construction project process. Design strategies. Health, safety and environmental issues for engineers. building sustainability, Case studies. Oral and written communication. Role and ethnics of professional engineers. Professionalism.

Reading List

Compulsory Readings

	Title
1	Nil

Additional Readings

	Title
1	Chan, T.W. and Sin, H.C. Construction Project Management – from Theory to Practice. (TH438 .C436)
2	Tang, S.L., Poon, S.W., Ahmed, S.M., and Wong. K.W.F. Modern Construction Project Management. (TH438 .M56)
3	The Chartered Institute of Building. Code of Practice for Project Management for Construction and Development. (TH438 .C626)
4	Hill, M.J. 2001. Building Contract Procedures in Hong Kong. (KNR85.4.B84 H55)
5	Fan, L. C.N. and Yim, K.P. Construction Management and Civil Engineering Practice in Hong Kong. (HD9715.C53 H64)
6	Tong, A. Y. H. Building and Development Control Legislation in Hong Kong. (KNR255 .T66)
7	Lingard, H. and Rowlinson, S. Occupational Health and Safety in Construction Project Management. (TH443 .L56)
8	Poon, S.W., Tang, S.L. and Wong, K.W. Management and Economics of Construction Safety in Hong Kong. (TH443 .P665)
9	Building Department, http://www.bd.gov.hk
10	Environmental Protection Department, http://www.epd.gov.hk