CA6609: GREEN BUILDING, ARCHITECTURE AND PEOPLE

Effective Term
Semester B 2024/25

Part I Course Overview

Course Title
Green Building, Architecture and People

Subject Code
CA - Civil and Architectural Engineering
Course Number
6609

Academic Unit
Architecture and Civil Engineering (CA)

College/School
College of Engineering (EG)

Course Duration
One Semester

Credit Units
3

Level
P5, P6 - Postgraduate Degree

Medium of Instruction
English

Medium of Assessment
English

Prerequisites
Nil

Precursors
Nil

Equivalent Courses
Nil

Exclusive Courses
Nil

Part II Course Details

Abstract

This course aims to introduce students to the concepts of green buildings and sustainability to solve contemporary environmental challenges. It helps students to understand the relationship between architecture, concerns, and requirements of occupants. The course emphasizes the student's ability to formulate special study areas in green buildings, architecture, and people, and conduct case studies or special studies of the subject matter.

Course Intended Learning Outcomes (CILOs)

	CILOs	Weighting (if app.)	DEC-A1	DEC-A2	DEC-A3
1	Describe the concepts of green buildings and sustainability as encouraged by the HKSAR Government; green building knowledge in Hong Kong, and case study		x		
2	Explain the relationship between architectural concerns and the requirements of occupants with the actual building design;		x		
3	Complete assessment of buildings from an architectural, interior design, landscape design and environmental protection points of view;			x	x
4	Describe the definitions of a green building, and green building assessment.		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	Lectures	Students will engage in lectures that explain the history of architecture; man's behavior in varying built environment; urban versus rural development; alternative definitions of green buildings; assessment of green buildings; architects' approaches to green building design; green buildings in Hong Kong; technologies for green buildings; energy efficient and intelligent buildings; sustainability of buildings; financial viability of green buildings; harmony between human beings and the built environment.	1, 2	
2	Tutorials	Students will engage in tutorial class to study case-studies related to harmony between human beings, the built environment and green buildings should be discussed; green building assessment by using Hong Kong BEAM plus with real case studies should be applied.	3, 4	

Additional Information for LTAs

Semester Hours: 3 hours per week

Lecture/Tutorial/Laboratory Mix: Lecture (-); Tutorial (-); Laboratory (-)

Mixed lecture and tutorial sessions

Assessment Tasks / Activities (ATs)

	ATs	CILO No.	Weighting (%)	Remarks (e.g. Parameter for GenAI use)
1	Assignments	1, 2, 3, 4	70	

Continuous Assessment (%)

70

Examination (%)

30

Examination Duration (Hours)

2

Additional Information for ATs

To pass a course, a student must obtain minimum marks of 30% in both coursework and examination components, and an overall mark of at least 40%

Assessment Rubrics (AR)

Assessment Task

Assignments (Applicable to students admitted before Semester A 2022/23 and in Semester A 2024/25 & thereafter)

Criterion

CAPACITY to EXPLAIN the different green building criteria.

CAPACITY to DISCUSS the architects' approaches to green building design; energy efficient and intelligent buildings; sustainability of buildings; financial viability of green buildings; harmony between human beings and the built environment.

ABILITY to USE the green building criteria and APPLY green building assessment to the question project/case.

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 (Applicable to students admitted before Semester A 2022/23 and in Semester A 2024/25 & thereafter)

Criterion

CAPACITY to EXPLAIN the different green building criteria.

CAPACITY to UNDERSTAND the architects' approaches to green building design; energy efficient and intelligent buildings; sustainability of buildings; financial viability of green buildings; harmony between human beings and the built environment.

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
Assignments (Applicable to students admitted from Semester A 2022/23 to Summer Term 2024)

Criterion
CAPACITY to EXPLAIN the different green building criteria.

CAPACITY to DISCUSS the architects' approaches to green building design; energy efficient and intelligent buildings; sustainability of buildings; financial viability of green buildings; harmony between human beings and the built environment.

ABILITY to USE the green building criteria and APPLY green building assessment to the question project/case.

Excellent
(A+, A, A-) High

Good
(B+, B) Significant

Marginal
(B-, C+, C) Basic

Failure
(F) Not even reaching marginal levels

Assessment Task
Examination (Applicable to students admitted from Semester A 2022/23 to Summer Term 2024)

Criterion
CAPACITY to EXPLAIN the different green building criteria.

CAPACITY to UNDERSTAND the architects' approaches to green building design; energy efficient and intelligent buildings; sustainability of buildings; financial viability of green buildings; harmony between human beings and the built environment.

Excellent
(A+, A, A-) High

Good
(B+, B) Significant

Marginal
(B-, C+, C) Basic

Failure
(F) Not even reaching marginal levels

Part III Other Information

Keyword Syllabus

Human behaviour in various built environments; urban versus rural development; definitions of green buildings; assessment of green buildings; architects' approaches to green building design; green buildings in Hong Kong; technologies for green buildings; energy efficient and intelligent buildings; sustainability of buildings; harmony between human beings and the built environment.

Reading List

Compulsory Readings

	Title
1	Nil

Additional Readings

	Title
1	European Commission, Directorate General XVII for Energy, 1999. A Green Vitruvius: Principles and Practice of Sustainable Architectural Design, James & James, London.
2	Sustainable Building Technical Manual: Green Building Design, Construction and Operations, Public Technology, Inc., Washington, D.C., 1996.
3	Kibert, C. J., Sustainable construction: green building design and delivery, Hoboken, N.J. : John Wiley, 2005.
4	Kibert, C. J., Sendzimir, J. and Guy, G. B., Construction ecology: nature as the basis for green buildings, London ; New York : Spon Press, 2002.
5	Green buildings and Sustainable Architecture http://www.arch.hku.hk/research/BEER/sustain.htm and other education lectures and further links.
6	Environmental Design Library - Green Design / Sustainable Architecture: Resources http://www.lib.berkeley.edu/ENVI/GreenAll.html.
7	Building Department Environmental Reports http://www.bd.gov.hk/english/documents/index_env.html
8	ano-building materials and new building technologies for green buildings -e.g. solar resistant paint, concrete treated with water proofing liquid http://www.formulahk.com/english/building/nanocoasting/index.html.