

CA8609: 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

8609

Academic Unit

Architecture and Civil Engineering (CA)

College/School

College of Engineering (EG)

Course Duration

One Semester

Credit Units

3

Level

R8 - Research Degree

Medium of Instruction

English

Medium of Assessment

English

Prerequisites

Nil

Precursors

Nil

Equivalent Courses

BC8609 Green Building, Architecture and People

Exclusive Courses

Nil

Additional Information

Some courses offered in Summer Term may start a few weeks earlier than the normal University schedule. Please check the teaching schedules with CLs before registering for the courses.

Part II Course Details

Abstract

To study the importance of environmental protection through the design and construction of green buildings.

Course Intended Learning Outcomes (CILOs)

CILOs		Weighting (if app.)	DEC-A1	DEC-A2	DEC-A3
1	understand the concepts of green buildings and sustainability as encouraged by the Buildings Department, HKSAR Government and case study;			x	
2	understand the relationship between architectural concerns and the requirements of occupants with the actual building design;			x	
3	implement an assessment on buildings from an architectural, interior design, landscape design and environmental protection points of view;				x
4	understand 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	Mass Lecture on explaining 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	Scenario-type tutorial class – 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 (2); Tutorial (1); Laboratory (0)

Assessment Tasks / Activities (ATs)

ATs		CILO No.	Weighting (%)	Remarks (e.g. Parameter for GenAI use)
1	Assignment (Individual Report)	1, 2, 3, 4	70	
2	Test	1, 2, 4	30	

Continuous Assessment (%)

100

Examination (%)

0

Assessment Rubrics (AR)

Assessment Task

Assignment (Individual Report) (for students admitted before Semester A 2022/23 and in Semester A 2024/25 & thereafter)

Criterion

2.1 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

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

Criterion

CAPACITY to EXPLAIN the different green building criteria and APPLY green building assessments

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 (Individual Report) (for students admitted from Semester A 2022/23 to Summer Term 2024)

Criterion

2.1 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

Test (for students admitted from Semester A 2022/23 to Summer Term 2024)

Criterion

CAPACITY to EXPLAIN the different green building criteria and APPLY green building assessments.

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

History of architecture; man's behaviour 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.

Reading List

Compulsory Readings

Title	
1	BEAM Plus New Buildings & Existing Buildings, HKGBC, 2014.

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	Nano-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 .