CIVL 1210 – Fundamental of Green Buildings

School:	**School of Engineering**
Subject Area:	**Civil and Environmental Engineering**
Course Credit:	**3**
Instructor:	**YANG Jiachuan**
Pre-requisite/co-requisite:	**Nil**

Notes:

- The syllabi provided here is for reference only and may be subject to changes and adjustments as determined by the course instructors.

The Hong Kong University of Science and Technology

UG Course Syllabus

Course Title: Fundamental of Green Buildings

Course Code: CIVL 1210

No. of Credits: 3 Credits

Name: Jiachuan Yang

Email: cejcyang@ust.hk

Office Hours: By email appointments

Course Description

This course will dive into the fundamental elements of green building at two scales: the building scale and the city. Strategies and techniques that optimize various perspectives of green buildings will be taught and discussed. Students will learn how to achieve energy efficiency and sustainability in building design and operation, as well as the fundamental principles behind these designs.

Intended Learning Outcomes (ILOs)

By the end of this course, students should be able to:

ILO1: Describe the concept of green buildings how to evaluate them

ILO2. Learn energy efficient building design from both indoor and outdoor perspectives

ILO3. Analyze the impact of buildings on outdoor environment with the governing equations

ILO4. Describe the fundamental process and principle of indoor-outdoor thermal exchange

Assessment and Grading

This course will be assessed using criterion-referencing and grades will not be assigned using a curve. Detailed rubrics for each assignment are provided below, outlining the criteria used for evaluation.

Assessments:

Homework assignments (20%) with related examples allow for reinforcement and assessment of students' mathematical knowledge and understanding of fundamental principles.

Quiz (45%) allow for assessment of students' ability to apply knowledge learnt in class to solve problems.

Essay (35%) allow for assessment of students' own exploration in his/her interest related to green building.

Mapping of Course ILOs to Assessment Tasks

Assessed Task	Mapped ILOs	Explanation
Essay	ILO2, ILO4	Essay enriches students' knowledge in the fundamental processes of green buildings and their real-world applications as well as challenges (ILO2, ILO4).
Homework assignments	ILO2, ILO3, ILO4	Homework assesses students' ability to comprehend the theoretical knowledge discussed in the lecture (ILO2, ILO3, ILO4).
Quiz	ILO1, ILO3, ILO4	Quizzes are designed to assess students' foundational understanding of green buildings (ILO1) and their design/operation under climate change (ILO3, ILO4).

Final Grade Descriptors:

Grades	Short Description	Elaboration on subject grading description
A	Excellent Performance	Demonstrates a comprehensive grasp of green buildings, expertise in problem-solving, and significant creativity in thinking. Exhibits a high capacity for scholarship and collaboration.
B	Good Performance	Shows good knowledge and understanding of the green buildings, its potential application, and its relationship with sustainable cities. Demonstrates competence in problem-solving, and the ability to analyze and evaluate green building issues. Displays high motivation to learn and the ability to work effectively.
C	Satisfactory Performance	Possesses adequate knowledge of green buildings, its potential application, and its relationship with sustainable cities. Demonstrates some capacity for analysis and critical thinking. Shows persistence and effort to achieve completion of homework and essay.
D	Marginal Pass	Has threshold knowledge of green buildings, its potential application, and its relationship with sustainable cities. Has the ability to make basic judgments, but with marginal effectiveness.
F	Fail	Demonstrates insufficient understanding of green buildings and lacks the necessary problem-solving skills. Shows limited ability to think analytically and exhibits minimal effort towards achieving learning goals.

Course AI Policy

The use of Generative AI in project is permitted with proper acknowledgement and will NOT be contributed to the students' work.

Communication and Feedback

Assessment marks for individual assessed tasks will be communicated via Canvas within two weeks of submission. Feedback on assignments will include [specific details, e.g., strengths, areas for improvement]. Students who have further questions about the feedback including marks should consult the instructor within five working days after the feedback is received.

Academic Integrity

Students are expected to adhere to the university's academic integrity policy. Students are expected to uphold HKUST's Academic Honor Code and to maintain the highest standards of academic integrity. The University has zero tolerance of academic misconduct. Please refer to Academic Integrity | HKUST – Academic Registry for the University's definition of plagiarism and ways to avoid cheating and plagiarism.