The Hong Kong University of Science and Technology

UG Course Syllabus

[Course Title] Carbon footprint analysis and reduction

[Course Code] CIVL 4450

[No. of Credits] 3

[Pre-requisites] CIVL 2410 OR ENVR 3210

Name: [Instructor(s) Name] Zhou, Wenwen

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Office Hours: [Specify Office Hours and Location]

Course Description

This course aims to provide students with an understanding of the sources and impacts of climate change, national and international policies, Paris Agreement, carbon credits and offsetting concepts. As engineers to be, students will also be able to calculate an organization's carbon footprint, identify suitable mitigation strategies and provide carbon reduction solutions.

Intended Learning Outcomes (ILOs)

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

ILO1: understand basic concepts of climate change, greenhouse gas (GHG) emission and carbon management;
ILO2: master the skill of carbon auditing;
ILO3: familiar with a typical carbon management project in a real business environment;
ILO4: understand the role of carbon consultant and the services and products offered; and
ILO5: develop the competence of facing clients in future job & career development.

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:

Assessment Task	Contribution to Overall Course grade (%)	Due date
Individual assignment	20%	Week 7
Group Project Paper	20%	Week 11
Group Presentation	10%	Week 12-13
Final examination	50%	

* Assessment marks for individual assessed tasks will be released within two weeks of the due date.

Mapping of Course ILOs to Assessment Tasks

Assessed Task	Mapped ILOs	Explanation
Individual assignment	ILO2, ILO4	This task on mini carbon audit assesses students' ability to use the carbon accounting tools to measure a company's carbon footprint.
Group project paper and presentation	ILO3. ILO4, ILO5	The project paper assesses the students' ability to apply carbon management concept and consulting products and service to a real business project and presentation further assesses students' capability and competence in bring the knowledge to the commercial clients.
Final examination	ILO1, ILO2, ILO3	Overall this assesses the students' understanding on the key concepts, measurement tools and management approach.

Final Grade Descriptors:

Grades	Short Description	Elaboration on subject grading description
A	Excellent Performance	[Example: Demonstrates a comprehensive grasp of subject matter, expertise in problem-solving, and significant creativity in thinking. Exhibits a high capacity for scholarship and collaboration, going beyond core requirements to achieve learning goals.]
B	Good Performance	[Example: Shows good knowledge and understanding of the main subject matter, competence in problem-solving, and the ability to analyze and evaluate issues. Displays high motivation to learn and the ability to work effectively with others.]
C	Satisfactory Performance	[Example: Possesses adequate knowledge of core subject matter, competence in dealing with familiar problems, and some capacity for analysis and critical thinking. Shows persistence and effort to achieve broadly defined learning goals.]
D	Marginal Pass	[Example: Has threshold knowledge of core subject matter, potential to achieve key professional skills, and the ability to make basic judgments. Benefits from the course and has the potential to develop in the discipline.]
F	Fail	[Example: Demonstrates insufficient understanding of the subject matter and lacks the necessary problem-solving skills. Shows limited ability to think critically or analytically and exhibits minimal effort towards achieving learning goals. Does not meet the threshold requirements for professional practice or development in the discipline.]

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.