Subject Description Form

Subject Code	CSE544
Subject Title	Sustainable Development and Environmental Planning
Credit Value	3
Level	5
Pre-requisite/ Co-requisite/ Exclusion	Nil
Objectives	To provide students with a comprehensive understanding of theories and current practices in sustainable development and environmental planning, with a focus on the unique context of Hong Kong. Students will explore essential tools for evaluating sustainable development, emphasizing energy planning, urban design, and community planning that promotes healthy lifestyles. Key topics will include climate change resilience and adaptation, green building practices, circular economy principles, and life cycle assessment. This curriculum is designed to equip students with the knowledge and skills necessary to appreciate the interconnectedness of sustainable development, urban planning, and environmental engineering, fostering innovative solutions for contemporary urban challenges.
Intended Learning Outcomes	Upon completion of the subject, students will be able to: a. understand the fundamentals of sustainable development in Hong Kong; b. apply concepts and knowledge of circular economy and life cycle assessment to real-life scenarios; c. evaluate the role of renewable energy and green building practices in advancing sustainable development; d. understand key principles and strategies of sustainable development in urban planning context; and e. identify and analyze challenges and opportunities related to sustainable urban design, including community planning and enhancing adaptation and resilience in urban environments.

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<tr><td>Subject Synopsis/ Indicative Syllabus</td><td colspan="7"><u>Keyword Syllabus</u>

i) <u>Sustainable Development</u>
Concepts of sustainable development; sustainable development goals (SDGs); long-term strategies for addressing environmental challenges.

ii) <u>Evaluation of Sustainability</u>
Examination of sustainability metrics, including carbon footprint analysis, renewable energy systems.

iii) <u>Green Building and Circular Economy</u>
Introduction to green building practices and the principles of the circular economy, emphasizing their importance in sustainable urban development.

iv) <u>Town Planning and Planning Application</u>
The planning system and hierarchy in Hong Kong; the dynamics of planning and development in Hong Kong; overview of the planning application process in Hong Kong.

v) <u>Community Planning</u>
Investigation of community planning concepts that promote active lifestyles and health, integrating principles of sustainable urban design.

vi) <u>Sustainable Urban Design and Planning</u>
Study of sustainable urban design principles and practices, focusing on wind, thermal radiation, temperature and precipitation.</td></tr>
<tr><td>Teaching/Learning Methodology</td><td colspan="7">The lectures will introduce the concept of sustainable development and its indicators. Environmental issues in the way of the global sustainable development will be discussed. Case studies will be used to demonstrate how to calculate both personal and corporate carbon footprints. Additionally, we will explore the planning development control system and the planning enforcement mechanisms in Hong Kong.</td></tr>
<tr><td rowspan="4">Assessment Methods in Alignment with Intended Learning Outcomes</td><td colspan="2" rowspan="2">Specific assessment methods/tasks</td><td rowspan="2">% weighting</td><td colspan="4">Intended subject learning outcomes to be assessed (Please tick as appropriate)</td></tr>
<tr><td>a.</td><td>b.</td><td>c.</td><td>d.</td><td>e.</td></tr>
<tr><td colspan="2">1. Continuous Assessment</td><td>50%</td><td>✓</td><td>✓</td><td>✓</td><td>✓</td><td>✓</td></tr>
<tr><td colspan="2">2. Written Examination</td><td>50%</td><td>✓</td><td>✓</td><td>✓</td><td>✓</td><td></td></tr>
<tr><td colspan="2">Total</td><td>100%</td><td colspan="4"></td></tr>
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	Explanation of the appropriateness of the assessment methods in assessing the intended learning outcomes: The continuous assessment will be based on an in-class design studio on environmental planning and or a group project on sustainable development, where students are required to deliver one oral presentation and submit a final written report. Written examination is evaluated by final examination. **Students must pass the final examination and achieve a passing overall score / grade to pass the subject.**
Reading List and References	**<u>Books</u>** Bailey, R., *An Introduction to Sustainable Development*, the Chartered Institution of Water and Environmental Management 1997, UK. BRE Natural ventilation in non-domestic buildings, BRE Digest 399, Building Research Establishment (UK), 1994. Brian Edwards, *Green Building Pay*, Spon Press, 1998. *Hong Kong Planning Standards and Guidelines*, Planning Department, Hong Kong Government. Natural ventilation in buildings: a design handbook, James & James, 1998. O'Riordan, T., *Environmental Science for Environmental Management*, Longman Scientific & Technical, 1995, London. R. T. Wright & D. F. Boorse (2010) Environmental Science: Towards A Sustainable Future, Pearson Education. *Territorial Development Strategy: Consultative Digest*, Planning Department, Hong Kong Government. *Town Planning in Hong Kong*, Planning Department, Hong Kong Government. W. Cunningham (2008) Environmental Science: A Global Concern, McGraw-Hill. World Commission on Environment and Development, 1987. *Our Common Future*, Oxford University Press, UK.