

**City University of Hong Kong
Course Syllabus**

**offered by Department of Public and International Affairs
with effect from Semester A 2024/25**

Part I Course Overview

Course Title:	Sustainability Infrastructures and Measurements
Course Code:	PIA5058
Course Duration:	One Semester
Credit Units:	2
Level:	P5
Medium of Instruction:	English
Medium of Assessment:	English
Prerequisites: <i>(Course Code and Title)</i>	Nil
Precursors: <i>(Course Code and Title)</i>	Nil
Equivalent Courses: <i>(Course Code and Title)</i>	Nil
Exclusive Courses: <i>(Course Code and Title)</i>	Nil

Part II Course Details

1. Abstract

The course aims to introduce students from a general and interdisciplinary background the major approaches and instruments in use in the discipline of sustainability across the design, finance, construction and operation phases. Students learn about the different ways in which “sustainability” is broadly defined, understood and measured, by different disciplines and professionals. The notion of sustainability is the subject of intense debate. The evolutionary context and development of sustainable development, values and methods are presented and discussed.

2. Course Intended Learning Outcomes (CILOs)

(CILOs state what the student is expected to be able to do at the end of the course according to a given standard of performance.)

No.	CILOs	Weighting (if applicable)	Discovery-enriched curriculum related learning outcomes (please tick where appropriate)		
			A1	A2	A3
1.	Discuss the evolution of sustainability as a concept that can be applied to the fields of various social systems.		✓		✓
2.	Analyse why policy and decision making requires more than just scientific information but is influenced by society, values, culture and economics.		✓	✓	
3.	Critically evaluate and communicate different views on sustainable practice.		✓	✓	
4.	Critically reflect on professional practice strategies that support sustainable development.			✓	✓
5.	Apply principles of Sustainability.				✓
		100%			

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.

3. Learning and Teaching Activities (LTAs)

(LTAs designed to facilitate students' achievement of the CILOs.)

LTA	Brief Description	CILO No.						Hours/week (if applicable)
		1	2	3	4	5		
Lecture	Lecturers, Videos	✓	✓	✓	✓	✓		
Presentation	Participation in lectures, including presentation of case studies	✓	✓	✓	✓	✓		
Individual Essay	Students will prepare an essay on an urban sustainability issue to reflect their critical thinking and analytical ability on the given topic.	✓	✓	✓	✓	✓		

4. Assessment Tasks/Activities (ATs)

(ATs are designed to assess how well the students achieve the CILOs.)

Assessment Tasks/Activities	CILO No.						Weighting	Remarks
	1	2	3	4	5			
Continuous Assessment: 100%								
1. In-class participation and group seminar/case presentation	✓	✓	✓	✓	✓			
2. Individual essay	✓	✓	✓	✓	✓			around 3,000 words excluding references
3. Project report and oral presentation	✓	✓	✓	✓	✓			
Examination: N/A (duration: N/A, if applicable)								
							100%	

5. Assessment Rubrics

(Grading of student achievements is based on student performance in assessment tasks/activities with the following rubrics.)

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

Assessment Task	Criterion	Excellent (A+, A, A-)	Good (B+, B, B-)	Fair (C+, C, C-)	Marginal (D)	Failure (F)
1. In-class participation and group seminar/case presentation	Students' presentation performance	The student has an excellent knowledge of the role and sustainability issues and is able to relate sustainable development to the built environment in a creative and innovative way.	The student has a good knowledge of the role and sustainability issues and is able to relate sustainable development to the built environment in a creative and innovative way.	The student has a rudimentary knowledge of the role and sustainability issues and is able to relate sustainable development to the built environment in a creative and innovative way.	The student has a limited knowledge of the role and sustainability issues and is fairly able to relate sustainable development to the built environment in a creative and innovative way.	The student knows almost nothing about the role and sustainability issues. The student has failed to link sustainable and development.
2. Individual essay	Quality of students works	The student has an excellent knowledge of the role and sustainability issues and is able to relate sustainable development to the built environment in a creative and innovative way.	The student has a good knowledge of the role and sustainability issues and is able to relate sustainable development to the built environment in a creative and innovative way.	The student has a rudimentary knowledge of the role and sustainability issues and is able to relate sustainable development to the built environment in a creative and innovative way.	The student has a limited knowledge of the role and sustainability issues and is fairly able to relate sustainable development to the built environment in a creative and innovative way.	The student knows almost nothing about the role and sustainability issues. The student has failed to link sustainable and development.
3. Project report and oral presentation	Report's quality and presentation performance	The report reflects an excellent knowledge of the role and sustainability issues and is able to relate sustainable development to the built environment in a creative and innovative way.	The report reflects a good knowledge of the role and sustainability issues and is able to relate sustainable development to the built environment in a creative and innovative way.	The report reflects a rudimentary knowledge of the role and sustainability issues and is able to relate sustainable development to the built environment in a creative and innovative way.	The student has a limited knowledge of the role and sustainability issues and is fairly able to relate sustainable development to the built environment in a creative and innovative way.	The report reflects almost nothing about the role and sustainability issues. The report has failed to link sustainable and development.

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

Assessment Task	Criterion	Excellent (A+, A, A-)	Good (B+, B)	Marginal (B-, C+, C)	Failure (F)
1. In-class participation and group seminar/case presentation	Students' presentation performance	The student has an excellent knowledge of the role and sustainability issues and is able to relate sustainable development to the built environment in a creative and innovative way.	The student has a good knowledge of the role and sustainability issues and is able to relate sustainable development to the built environment in a creative and innovative way.	The student has a rudimentary knowledge of the role and sustainability issues and is able to relate sustainable development to the built environment in a creative and innovative way.	The student knows almost nothing about the role and sustainability issues. The student has failed to link sustainable and development.
2. Individual essay	Quality of students works	The student has an excellent knowledge of the role and sustainability issues and is able to relate sustainable development to the built environment in a creative and innovative way.	The student has a good knowledge of the role and sustainability issues and is able to relate sustainable development to the built environment in a creative and innovative way.	The student has a rudimentary knowledge of the role and sustainability issues and is able to relate sustainable development to the built environment in a creative and innovative way.	The student knows almost nothing about the role and sustainability issues. The student has failed to link sustainable and development.
3. Project report and oral presentation	Report's quality and presentation performance	The report reflects an excellent knowledge of the role and sustainability issues and is able to relate sustainable development to the built environment in a creative and innovative way.	The report reflects a good knowledge of the role and sustainability issues and is able to relate sustainable development to the built environment in a creative and innovative way.	The report reflects a rudimentary knowledge of the role and sustainability issues and is able to relate sustainable development to the built environment in a creative and innovative way.	The report reflects almost nothing about the role and sustainability issues. The report has failed to link sustainable and development.

Part III Other Information (more details can be provided separately in the teaching plan)

1. Keyword Syllabus

(An indication of the key topics of the course.)

Sustainability; Environmental Science and Engineering; Defining Sustainability; Sustainable Development; Metrics of Sustainability; Ethics and Values in Sustainability Thought; Corporate Sustainability Reporting; Sustainability Management.

2. Reading List

2.1 Compulsory Readings

(Compulsory readings can include books, book chapters, or journal/magazine articles. There are also collections of e-books, e-journals available from the CityU Library.)

1. The principles of sustainability. Simon Dresner. London; Sterling, VA: Earthscan, 2008
2. Lackey, R. (2006) Science, scientists and policy advocacy“ Conservation Biology, 21 (1) pp.12-17.
3. Environmental issues: an introduction to sustainability McConnell, Robert L. Prentice Hall, c2008.
4. Warren-Rhodes, K., and A. Koenig, Escalating trends in the urban metabolism of Hong Kong: 1971-1997, *Ambio*, 30, 429-438, 2001.
5. Yuichi Moriguchi and Seiji Hashimoto, Material Flow Analysis and Waste Management. In: Roland Clift and Angela Druckman Editors, 2016. Taking Stock of Industrial Ecology. Springer.
6. Environmental Science: Earth as a Living Planet, 9th Edition. Daniel B. Botkin, Edward A. Keller. February 2014
7. Parris, T.M., and R.W. Kates, Characterizing and measuring sustainable development, *Annuals Reviews of Environment and Resources*, 28, 559-586, 2003.
8. Marshall, J.D., and M.W. Toffel, Framing the elusive concept of sustainability: A sustainability hierarchy, *Environmental Science & Technology*, 39, 673-682, 2005.
9. Lubin D.A., D.C. Esty. 2010. The sustainability imperative. *Harvard Business Review*, 2011
10. Gunningham, 2003. “Sources of Corporate Environmental Performance.” *California Management Review*, 46(1).
11. 4. Principles of environmental sciences. Jan J. Boersema, Lucas Reijnders, editors. Springer e book 2009
12. Peter S. Wenz, *Environmental Ethics Today*, NY: Oxford, 2001, Chapters 1-3, pp. 19-78.
13. Mikael Stenmark (2002) “Anthropocentric Environmental Ethics”, in *Environmental Ethics and Policy-Making*, Ashgate: Aldershot, England, pp. 19-56
14. Xueying Yuan, Zhongfei Li, Jinhua Xu, Lixia Shang, ESG disclosure and corporate financial irregularities – Evidence from Chinese listed firms, *Journal of Cleaner Production*, Volume 332, 2022, 129992.
15. *Sustainability: A Comprehensive Foundation* (2011). Thomas L. Theis and Jonathan Tomkin, editors. University of Illinois on-line text.
16. Chapter 15: Sarah Sim, Henry King, and Edward Price, The Role of Science in Shaping Sustainable Business: Unilever Case Study. In: Roland Clift and Angela Druckman Editors, 2016. Taking Stock of Industrial Ecology. Springer.

17. Chapter 17: Kirstie McIntyre and John A. Ortiz, Multinational Corporations and the Circular Economy: How Hewlett Packard Scales Innovation and Technology in Its Global Supply Chain. In: Roland Clift and Angela Druckman Editors, 2016. Taking Stock of Industrial Ecology. Springer.

2.2 Additional Readings

(Additional references for students to learn to expand their knowledge about the subject.

Online resources: N.A.