

**City University of Hong Kong**  
**Course Syllabus**

**offered by School of Energy and Environment**  
**with effect from Semester A 2021/22**

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**Part I Course Overview**

**Course Title:** Principles of Sustainability

**Course Code:** SEE2204

**Course Duration:** 1 semester

**Credit Units:** 3 credits

**Level:** B2

**Proposed Area:**  
*(for GE courses only)*

Arts and Humanities  
 Study of Societies, Social and Business Organisations  
 Science and Technology

**Medium of Instruction:** English

**Medium of Assessment:** English

**Prerequisites:**  
*(Course Code and Title)* Nil

**Precursors:**  
*(Course Code and Title)* Nil

**Equivalent Courses:**  
*(Course Code and Title)* Nil

**Exclusive Courses:**  
*(Course Code and Title)* Nil

## Part II Course Details

### 1. Abstract

(A 150-word description about the course)

The course aims to introduce students from a science and engineering background to the discipline of Sustainability. This course gives students an understanding of sustainability investigating the complexity and links between the environment as investigated by the physical sciences and sustainable development as understood through the study of social systems. Students learn about the different ways in which “sustainability” is defined and understood, by different disciplines and professionals. The notion of sustainability is the subject of intense debate. The historical context and background of environmental protection, values and thought is presented.

### 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 <sup>#</sup>	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 field of environmental engineering and science.		✓		✓
2.	Analyse why environmental 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%			

\* If weighting is assigned to CILOs, they should add up to 100%.

<sup>#</sup> Please specify the alignment of CILOs to the Gateway Education Programme Intended Learning outcomes (PILOs) in Section A of Annex.

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 self-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. Teaching and Learning Activities (TLAs)

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

TLA	Brief Description	CILO No.					Hours/week (if applicable)
		1	2	3	4	5	
Lecture	Explain key theories and concepts of Sustainability	✓	✓	✓	✓	✓	2 hrs per wk
Tutorial	Learn through case studies the application of theory to real world examples of environmental science	✓	✓	✓	✓	✓	1 hr per wk
Analysis	Apply the taught environmental system analytical tools to analyse the comprehensive economic, environmental and societal benefits and trade-offs derived from an environmental issue or policy makings. Apply case studies and real world examples to illustrate and verify the arguments and analysis.	✓	✓	✓	✓	✓	3 hrs per wk

### 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: <u>60</u> %							
Assignment	✓	✓	✓	✓	✓	60%	a) Three assignment on analytical tools application (5, 5 and 15 marks); b) One assignment on policies (10 mark); c) Two integrated assignment (combining calculation, policies and case studies), 10 and 15 marks
Examination: <u>40</u> % (duration: 2 hrs, if applicable)							
* The weightings should add up to 100%.						100%	

Examination duration: 2 hrs

\*Examinations will be in the format of a number of quantitative and qualitative questions & quizzes. The former will test the ability of applying taught analytical tools for calculation and analysis, on certain sustainability issue; the later will test the understanding and critical thinking on the principles of sustainability, why and how environmental decision making requires more than just scientific information but is influenced by society, values, culture and economics, by applying theories, case studies and arguments.

Percentage of coursework, examination, etc.: 60% by coursework; 40% by exam

To pass a course, a student must do ALL of the following:

- 1) obtain at least 30% of the total marks allocated towards coursework (combination of assignments, pop quizzes, term paper, lab reports and/or quiz, if applicable);
- 2) obtain at least 30% of the total marks allocated towards final examination (if applicable); and
- 3) meet the criteria listed in the section on Assessment Rubrics.

**5. Assessment Rubrics**

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

Assessment Task	Criterion	Excellent (A+, A, A-)	Good (B+, B, B-)	Fair (C+, C, C-)	Marginal (D)	Failure (F)
Assignment	Capacity to apply the principles of sustainability to discuss and analyse social, environmental and economic issues	High	Significant	Moderate	Basic	Not even reaching marginal level
Examination	Capacity to apply the principles of sustainability to discuss and analyse social, environmental and economic issues	High	Significant	Moderate	Basic	Not even reaching marginal level

**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.	Environmental issues: an introduction to sustainability McConnell, Robert L. Prentice Hall, c2008.
3.	Environmental Science: Earth as a Living Planet, 9th Edition. Daniel B. Botkin, Edward A. Keller. February 2014
4.	Principles of environmental sciences. Jan J. Boersema, Lucas Reijnders, editors. Springer e book 2009

**2.2 Additional Readings**

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

Nil