

The Hong Kong University of Science and Technology

UG Course Syllabus

Course Title: Sustainable Ocean

Course Code: OCES2004

No. of Credits: 3

Pre-/co-requisites: None

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Office Hours: CYT5004 (Availability based on request)

Course Description

This course explores the principles and practices of sustainability as they apply to the world's oceans. Students will learn about the impacts of human activities on marine ecosystems and how to develop strategies for sustainable use and conservation of ocean resources. The course combines aspects of marine ecology, oceanography, environmental science, and socio-economics.

Intended Learning Outcomes (ILOs)

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

1. Exemplify the complex interactions within marine ecosystems and the principles that underpin sustainable management of ocean resources.
2. Recognize the effects of anthropogenic pressures on the marine environment, including pollution, overfishing, and climate change.
3. Apply critical thinking skills to identify, analyze, and propose solutions to problems related to sustainable use and conservation of ocean resources.
4. Develop the ability to conduct research, including data collection, analysis, and interpretation, within the context of ocean sustainability.
5. Evaluate the effectiveness of existing policies and management strategies aimed at conserving marine ecosystems and promoting sustainable use of ocean resources.
6. Develop a strong sense of ethical responsibility towards the conservation of marine biodiversity and the sustainable management of ocean resources.
7. Explain complex sustainability issues and proposed solutions clearly and persuasively to a variety of audiences, including scientists, policymakers, and the public.

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
Class Participation	10%	Throughout the course
Quizzes (4)	25%	16 Sep, 30 Sep, 30 Oct, 13 Nov
Field Trip Worksheet	15%	16 Oct
Written Assignment: Critical Policy Analysis	20%	2 Dec
Group Discussion Participation	10%	Throughout the course
Case Study Presentation: SDG Action Plan Project	20%	20 Nov, 25 Nov, 27 Nov
Total	100%	

* 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
Quizzes	CILO-1, CILO-2, CILO-3	These tasks assess students' ability to understand and recall key concepts, recognize environmental pressures, and apply foundational critical thinking.
Field Trip Worksheet	CILO-1, CILO-2, CILO-4, CILO-7	This task assesses students' ability to connect field observations with ecosystem principles (CILO 1, 2), apply data collection skills (CILO 4), and communicate findings (CILO 7).
Written Assignment	CILO-3, CILO-4, CILO-5	This task assesses students' ability to critically analyze ocean policy (CILO 3), conduct research (CILO 4), and evaluate the effectiveness of management strategies (CILO 5).
Class & Group Discussion Participation	CILO-6, CILO-7	These tasks assess students' ability to articulate ideas, engage in ethical reflection (CILO 6), and communicate complex issues persuasively with peers (CILO 7).
Case Study Presentation	CILO-4, CILO-5, CILO-6	The presentation assesses students' ability to research a problem (CILO 4), evaluate and propose solutions (CILO 5), and communicate their plan to an audience (CILO 6)

Grading Rubrics: Detailed rubrics for each assignment will be provided. These rubrics clearly outline the criteria used for evaluation. Students can refer to these rubrics to understand how their work will be assessed.

Final Grade Descriptors:

Grades	Short Description	Elaboration on subject grading description
A	Excellent Performance	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	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	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	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	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.

Course AI Policy

Students are permitted to use generative artificial intelligence (AI) tools to assist with brainstorming and refining their work, provided they adhere to strict guidelines for responsible use. It is mandatory for students to acknowledge all AI assistance by including a declaration in their submissions that specifies the tool used (e.g., ChatGPT-4) and describes the extent of its involvement. Ultimately, students are fully responsible for their submitted work. Students must critically verify all AI-generated content for accuracy and quality, as they will be held accountable for any errors, omissions, or plagiarism. The final submission must represent the student's own effort and understanding of the course material.

Communication and Feedback

Assessment marks for individual assessed tasks will be communicated via Canvas within two weeks of submission. Feedback on assignments will include strengths and 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. Medical leave must be supported by documentation and emailed to the instructor on the same day.

Resubmission Policy

Late submissions or plagiarism will result in mark deductions. There are no general opportunities for resubmitting work.

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.

Course Schedule

Week	Date	Lecture Topic	Format	Assessment
1	2 Sep	Course Introduction	Lecture	
	4 Sep	Defining 'Sustainable Ocean'	Lecture	
2	9 Sep	Marine Biodiversity & Ecosystem Function (I)	Lecture	
	11 Sep	Marine Biodiversity & Ecosystem Function (II)	Lecture	
3	16 Sep	Marine Pollution (I)	Assessment + Lecture	Quiz 1
	18 Sep	Marine Pollution (II)	Lecture + discussion	
4	23 Sep	Climate Change and the Oceans (I)	Lecture	
	25 Sep	Climate Change and the Oceans (II)	Lecture + discussion	
5	30 Sep	Overfishing	Assessment + Lecture	Quiz 2
	2 Oct	Sustainable Aquaculture & Field Visit Integration	Lecture	
6	7 Oct	No class (Mid-Autumn festival)		
	9 Oct	No class		
	11 Oct	Field Day (Oyster Farm)	Field Trip	
7	14 Oct	From the Field to the Framework	Lecture	
	16 Oct	Sustainable Fishing Practices	Lecture + discussion	Field Trip Worksheet Due
8	21 Oct	Habitat Destruction	Lecture	
	23 Oct	Marine Protected Areas (MPAs) (I)	Lecture	
9	28 Oct	Marine Protected Areas (MPAs) (II)	Lecture + discussion	

Week	Date	Lecture Topic	Format	Assessment
	30 Oct	The Blue Economy (I)	Assessment + Lecture	Quiz 3
10	4 Nov	The Blue Economy (II)	Lecture + discussion	
	6 Nov	International Ocean Governance, Law, and Policy (I)	Lecture	
11	11 Nov	International Ocean Governance, Law, and Policy (II)	Lecture + discussion	
	13 Nov	Innovation, Technology, and Citizen Science: Accelerating SDG 14.a	Assessment + Lecture	Quiz 4
12	18 Nov	Synthesizing Solutions & Charting the Future for Achieving SDG 14	Lecture	
	20 Nov	Presentations (Groups 1-3)	Presentations	
13	25 Nov	Presentations (Groups 4-7)	Presentations	
	27 Nov	Presentations (Groups 8-10) & Course Review	Presentations	
	2 Dec			Written Assignment Due