OCES 4301 Environmental Conservation (3-credits)

Spring 2024-25

Monday 3:00 – 4:20 pm; Friday 10:30 – 11:50 am
Classroom: Room 6602 (L31/32)

Course Description
This course covers the essential topics of environmental conservation, which includes biodiversity, ecosystems, environmental ethics and economics, environmental policy, resources management, and conservation biology. Case studies from Hong Kong and other regions will be investigated. The course will only target both LIFS and OST students in their third and fourth year of study.

Course Objectives
The course is designed to equip students with a comprehensive understanding of the critical aspects of environmental conservation. Students will learn to recognize the significance of biodiversity and its essential role in maintaining ecosystem functionality, while also grasping the urgent threats posed to biodiversity. It also aims to provide students with the ability to evaluate and apply conservation strategies from various global contexts, fostering critical thinking regarding the effectiveness of different conservation policies and projects. Through a combination of lectures, discussions, and field trips, students will engage with real-world case studies that highlight the importance of environmental stewardship.

Intended Learning Outcomes (ILOs)
After taking this course, the students are expected to be able to:
1. recognize the importance of biodiversity to the functioning of our biosphere and the need to protect biodiversity;
2. understand the current and emerging threats to biodiversity;
3. understand and evaluate the state-of-the-art conservation strategies in different parts of the world;
4. interpret the scientific basis of various conservation policies and projects, and critically evaluate their efficacy;
5. integrate learnt knowledge and effectively communicate related knowledge in written format;
6. appreciate the importance of harmony between humans and nature.

Course Coordinators and Instructors

- Dr Cynthia YAU, Room 5436 (L25/26), cynthiastyau@ust.hk
- Dr Cindy LAM, Room 5540 (L25/26), envscindy@ust.hk

Format (*the schedule provided is provisional subject to change*)
- Lectures
- In-class discussions
- Online study
- Field trips

Course Assessment
- Final Examination (40%)
- Essay Writing (20%)
- Field Trip Participation and Assignments (32%)
- Lecture Attendance (8%)

Summary Table

Assessment Task	Contribution to Overall Course Grade (%)	Due Date
Field Trip Participation & Assignment 1	8 %	15 March 2025
Field Trip Participation & Assignment 2	8 %	12 April 2025
Field Trip Participation & Assignment 3	8 %	10 May 2025
Field Trip Participation & Assignment 4	8 %	24 May 2025
Essay Writing	20%	24 May 2025
Final Examination	40 %	Tbc

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

Major Reference

Conservation Biology for All (2010), edited by Navjot S. Sodhi and Paul R. Ehrlich

(Conservation Biology for All has been generously made available in its entirety here: **http://www.conbio.org/publications/free-textbook)**

Mapping of Course ILOs to Assessment Tasks

Assessed Task	Mapped ILOs	Explanation
Field Trip Assignments	ILO 1, ILO 2, ILO 3, ILO 4, ILO 5	This task assesses students' ability to recognize the importance of biodiversity through observations and hands-on experience in the field trip (ILO 1), investigate real-world examples of environmental threats to biodiversity (ILO 2), evaluate the effectiveness of conservation strategies on protection of endangered species (ILO 3), facilitate a better understanding of implementation and impact on conservation policies (ILO 4), and encourage students to apply theoretical knowledge in practical settings, reinforcing their learning through experimental education (ILO 5)
Essay Writing	ILO 1, ILO 2, ILO 3, ILO 4, ILO 5, ILO 6	This task requires students to explore specific case studies that highlight the importance of biodiversity, allowing them to articulate its role in ecosystem functionality and the necessity for protection (ILO 1), assesses their ability to research and analyze the threats critically (ILO 2), evaluate various conservation strategies from different regions, fostering critical thinking and compare its effectiveness (ILO 3), interpret scientific literature related to conservation policies through written analysis (ILO 4, ILO5), and reflect the relationship between humans and nature (ILO 6)
Final Examination	ILO 1, ILO 2, ILO 3, ILO 4	This task assesses students' understanding of biodiversity's role in ecosystem functionality and the necessity for its protection (ILO 1), evaluate their knowledge and comprehension of

		critical issues on emerging threats (ILO 2), test their ability to evaluate effectiveness of various conservation strategies through comparison and analysis (ILO 3), and understand scientific basis behind conservation policies and projects, including their ability to critically evaluate those initiatives (ILO 4)

Final Grade Descriptors:

Grades	Short Description	Elaboration on Subject Grading Description
A	Excellent Performance	Students receiving an A demonstrate exceptional understanding and mastery of course content. They exhibit critical thinking and analytical skills, effectively integrating knowledge from various topics within environmental conservation. Their assignments reflect originality, depth of research, and clarity in communication. Participation in discussions and field trips is proactive, showing leadership and a strong commitment to learning.
B	Good Performance	A grade of B indicates a solid grasp of the material with some areas for improvement. Students show good analytical abilities and can apply concepts learned in class to real-world scenarios. Their written assignments are well-structured and researched but may lack the depth or originality seen in A-level work. Participation is consistent, contributing thoughtfully to discussions and completing field trip assignments competently.
C	Satisfactory Performance	Students earning a C demonstrate an adequate understanding of the fundamental concepts of environmental conservation. They meet basic requirements for assignments but may struggle with deeper analysis or application of knowledge. Communication is generally clear, though there may be issues with coherence or detail. Participation is present but may not be fully engaged or insightful.
D	Marginal Pass	A grade of D reflects minimal understanding of course content. Students may complete assignments but often fail to meet the expected standards for analysis or depth of research. Communication may be unclear or poorly structured, leading to misunderstandings of key concepts. Participation in class discussions and field trips is limited, indicating a lack of engagement with the material.
F	Fail	Students receiving an F do not demonstrate an adequate understanding of the course material. Assignments are incomplete or poorly executed, lacking necessary research and analysis. Communication is ineffective, leading to significant misunderstandings of key concepts. Participation is absent or unproductive, failing to contribute to the learning environment.

Communication and Feedback
Assessment marks for individual assessed tasks will be communicated via Canvas within two weeks of submission.

Course AI Policy
The use of Generative AI is not applicable to this course as all field trip assignments, essay writing, and close-book final examination.

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.

OCES 4301 Environmental Conservation - Spring 2024-25 - Tentative Course Schedule

Wk	Date	Topic & Format	Assessment	Instructor
1	Feb 3 (Mon)	Course Introduction	Lecture	Yau & Lam
	Feb 7 (Fri)	Guest Lecture (I): Marine Biodiversity and Its Conservation in Hong Kong	Guest Lecture	Ms. Lydia Pang (WWF)
2	Feb 10 (Mon)	Habitat Destruction and Fragmentation - Cause of deforestation: the story of soy. - Role of pasture and soybean in deforestation of the Brazilian Amazon. - Wildlife corridor in Canada (video)	Lecture	Lam
	Feb 14 (Fri)	In-class Discussion: Does Habitat Fragmentation Lead to Species Loss?	Participation	Lam
3	Feb 17 (Mon)	Species Invasion - Management of an invasive apple snail - Invasive Pacific Oysters in Europe (video)	Lecture	Lam
	Feb 21 (Fri)	In-class Discussion: Management of Species Invasion	Participation	Lam
4	Feb 24 (Mon)	Guest Lecture (II): Conservation of Freshwater Turtles	Guest Lecture	Mr Ray Leung (OPCF)
	Feb 28 (Fri)	Mercy Release - Mercy release in Hong Kong (article & video) - Do Buddhists harm ecosystems?	Lecture	Lam
	Mar 1 (Sat)	*Field Trip I – – Freshwater Turtles Conservation (Ocean Park Conservation Foundation, Hong Kong)*	Field Trip	Yau & Lam
5	Mar 3 (Mon)	*No Class*		
	Mar 7 (Fri)	In-class Discussion: Is Mercy Release Equal to Wildlife Conservation?	Participation	Lam
6	Mar 10 (Mon)	Guest Lecture (III): Herpetofauna of Hong Kong and their Conservation	Guest Lecture	Prof. Anthony Lau (Lingnan U)
	Mar 14 (Fri)	Mudflats and Horseshoe Crab Conservation	Lecture	Lam
7	Mar 17 (Mon)	Mangroves and Their Conservation	Lecture	Yau
	Mar 21 (Fri)	Guest Lecture (IV): Conservation of Sha Lo Tung	Guest Lecture	Dr. Simon Tse (Green Power)
8	Mar 24 (Mon)	Guest Lecture (V): Conservation Ecology of Chinese White Dolphin in Hong Kong	Guest Lecture	Dr. Stephen Chan (HKU)
	Mar 28 (Fri)	*No Class*		
	Mar 29 (Sat)	*Field Trip II – Sha Lo Tung*	Field Trip	Yau & Lam
9	Mar 31 (Mon)	Protected Areas I	Lecture	Yau
	Apr 4 (Fri)	*No Class - Midterm Break*		
	Apr 7 (Mon)	Protected Areas II	Lecture	Yau
	Apr 11 (Fri)	Overexploitation	Lecture	Yau
10	Apr 14 (Mon)	Guest Lecture (VI): Trade in Endangered Species (CITES)	Guest Lecture	Dr. Jenny Lau (AFCD)
	Apr 18 (Fri)	*No Class – Public Holiday*		
11	Apr 21 (Mon)	*No Class – Public Holiday*		
	Apr 25 (Fri)	Roles of Zoos and Aquariums	Lecture	Yau
	Apr 26 (Sat)	*Field Trip III – Kadoorie Farm & Botanic Garden*	Field Trip	Yau & Lam
12	Apr 28 (Mon)	Mitigation and Restoration Ecology	Lecture	Yau
	May 2 (Fri)	Guest Lecture (VII): Oyster reef conservation	Guest Lecture	Mr. Tom Chan (TNC HK)
13	May 5 (Mon)	*No Class – Public Holiday*		
	May 9 (Fri)	Course Review		Yau & Lam
	May 10 (Sat)	*Field Trip IV – Pak Nai*	Field Trip	Yau & Lam