

LIFS 2060 - Biodiversity (3 credits)

Fall 2022-23

Class Schedule: Monday & Wednesday, 10:30am – 11:50am
Venue: LT-D

Instructors

Dr. Ice KO (E-mail: iceko@ust.hk) [Course Coordinator]

Dr. Jessica TANG (E-mail: bocemun@ust.hk)

Course Description

This course introduces students to the diversity of life and habitats; the evolution and extinction of species; the values of biodiversity; challenges to the biodiversity and conservation approaches; the inter-relationships between humans/biodiversity and the environment. Examples (local and global) and applications will be included to highlight the key concepts.

Pre-requisite: Nil | Exclusion: Nil

Intended Learning Outcomes (ILOs)

On successful completion of this course, students are expected to be able to:

- 1) appreciate the beauty and richness of our biodiversity;
- 2) discuss the variety and classification of life, and understand their evolutionary relationship;
- 3) identify and give examples to illustrate the ecological relationships between organisms and their environment;
- 4) critically evaluate the relationship between humans and the environment, and examine how environmental conservation has been carried out.

Assessment Scheme (assessing Course ILOs 1-4)

- Mid-term Examination (35%)
- Final Examination (65%)

Teaching and Learning Activities

Scheduled activities: 2 lectures per week (each lecture 1 hour 20 mins)

<u>Teaching Activities</u>	<u>Attaining Course ILOs</u>
Lectures	1-4
In-class discussions	2-4

Key References

Cunningham WP & Cunningham MA (2020) *Principles of Environmental Science: Inquiry & Application*, 9th edition, McGraw-Hill Companies, Inc.

Miller SA & Tupper, TA (2019) *Zoology*, 11th edition, McGraw Hill Education.

Raven PH, Johnson GB, Losos JB, Mason KA & Duncan T (2020) *Biology*, 12th edition, McGraw-Hill Companies, Inc.

	Date	Lecture Topic	Instructor
1)	5 Sep (Mon)	Course Introduction	Ko
2)	7 Sep (Wed)	Systematics & Classification	Ko
	<i>12 Sep (Mon)</i>	<i>Public Holiday</i>	
3)	14 Sep (Wed)	The History and Origins of Life on Earth	Tang
4)	19 Sep (Mon)	Introduction to Microorganisms	Tang
5)	21 Sep (Wed)	Diversity of Microbial Life: Archaea and Bacteria	Tang
6)	26 Sep (Mon)	Diversity of Microbial Life: Viruses	Tang
7)	28 Sep (Wed)	Diversity and Ecological Importance of Fungi	Tang
8)	3 Oct (Mon)	Microbiomes: Microbial Systems on and around Us	Tang
9)	5 Oct (Wed)	Protists	Ko
10)	10 Oct (Mon)	Mid-term Exam	Ko & Tang
11)	12 Oct (Wed)	Invertebrates	Ko
12)	17 Oct (Mon)	Vertebrates	Ko
13)	19 Oct (Wed)	Seedless & Seed Plants	Ko
14)	24 Oct (Mon)	The Value of Biodiversity (I)	Ko
15)	26 Oct (Wed)	The Value of Biodiversity (II)	Ko
16)	31 Oct (Mon)	Habitat Biodiversity & Biomes (I)	Ko
17)	2 Nov (Wed)	Habitat Biodiversity & Biomes (II)	Ko
18)	7 Nov (Mon)	Tropical Rainforests (I)	Ko
19)	9 Nov (Wed)	Tropical Rainforest (II)	Ko
20)	14 Nov (Mon)	Coral Reefs (I)	Ko
21)	16 Nov (Wed)	Coral Reefs (II)	Ko
22)	21 Nov (Mon)	Wetlands (I)	Ko
23)	23 Nov (Wed)	Wetlands (II)	Ko
24)	28 Nov (Mon)	Loss of Biodiversity and Ecological Conservation (I)	Ko
25)	30 Nov (Wed)	Loss of Biodiversity and Ecological Conservation (II)	Ko