

# **OCES/LIFS 1030 Environmental Science (Fall 2018-19)**

**Wednesday and Friday, 16:30 - 17:50**

**LSKG012**

## **Learning Outcomes**

By the end of this course, the students are expected to be able to

- 1) Comprehend essential environmental concepts such as life supporting system, biodiversity and biomes, natural resources, sustainability, and their inter-relationships,
- 2) Develop a broad interest and connect the knowledge to their major study,
- 3) Recognize the importance of harmony among human, the nature, and a sustainable living society,
- 4) Apply the knowledge in daily life and contribute to environmental protection.

## **Course Format**

Two lectures (80 minutes each) per week.

## **Course Assessment**

- Mid-term Examination (about 50%)
- Final Examination (about 50%)

## **Course Instructors (Department of Ocean Science)**

Course Director: Prof Pei-Yuan Qian

E-mail: boqianpy@ust.hk, Tel: 2358 7331

Instructor: Dr Cindy Lam

E-mail: envscindy@ust.hk, Tel: 2358 6075

## **Major Reference**

Cunningham, W.P. and Cunningham, M.A. (2017) *Principles of Environmental Science: Inquiry and Applications*. Eighth Edition. McGraw-Hill Companies, Inc.

## Tentative Lecture Outline and Schedule

Date	Lecture Topic	Instructor
<b>Part 1: Our Environment and the Challenges (Chapters 1&amp; 5)</b>		
1) 5 Sept (Wed)	Global Climate Changes	Qian
2) 7 Sept (Fri)	Global Warming vs. Global Cooling	Qian
3) 12 Sept (Wed)	Other Pressing Global Environmental Issues	Qian
4) 14 Sept (Fri)	Earth Summits, Conventions on CO <sub>2</sub> Emission	Qian
5) 19 Sept (Wed)	Law of the Sea, Conventions on Ocean Dumping & Mining	Qian
6) 21 Sept (Fri)	Hong Kong Environmental Issues	Qian
7) 26 Sept (Wed)	Biodiversity: Significance and Threats	Guest Lecturer
8) 28 Sept (Fri)	The Convention on Biological Diversity	Guest Lecturer
<b>Part 2: Matter and Energy (Chapters 2 &amp; 13)</b>		
9) 3 Oct (Wed)	Matter and Energy	Qian
<b>Part 3: Life and Biomes (Chapters 3, 5 &amp; 6)</b>		
10) 5 Oct (Fri)	Life Supporting Systems—Species, Population, Community	Qian
11) 10 Oct (Wed)	Life Supporting Systems—Community, Ecosystem	Qian
12) 12 Oct (Fri)	Major Biomes (Ecosystems)	Qian
17 Oct (Wed)	<i>Public Holiday</i>	
<b>13) 19 Oct (Fri)</b>	<b>Mid-term Exam</b>	<b>Qian/ Lam</b>
<b>Part 4: Human Populations (Chapter 4)</b>		
14) 24 Oct (Wed)	Human Population Dynamics and Control	Lam
<b>Part 5: Food and Nutrition (Chapter 7)</b>		
15) 26 Oct (Fri)	Food Safety and Security	Lam
<b>Part 6: Environmental Health and Toxicology (Chapter 8)</b>		
16) 31 Oct (Wed)	Human Health and the Environment: Global and Local Issues	Lam
17) 2 Nov (Fri)	Environmental Toxicology: Transport and Bioaccumulation	Lam
18) 7 Nov (Wed)	Environmental Toxicology: Toxicity	Lam
<b>Part 7: Atmosphere and Pollution (Chapter 9)</b>		
19) 9 Nov (Fri)	Atmosphere: Greenhouse Gases and Air Pollutants	Lam
20) 14 Nov (Wed)	Atmosphere: Acid Rain, Ozone, Ocean Acidification	Lam
<b>Part 8: Water Resources and Pollution (Chapter 10)</b>		
21) 16 Nov (Fri)	Water Supply, Usage and Cycle	Lam
22) 21 Nov (Wed)	Aquatic Hypoxia and Eutrophication	Lam
23) 23 Nov (Fri)	Water Pollution and Remediation	Lam
<b>Part 9: Solid and Hazardous Wastes (Chapter 13)</b>		
24) 28 Nov (Wed)	Microplastics: Global and Local Impacts	Lam
25) 30 Nov (Fri)	Solid Wastes and Remediation	Lam