OCES 1030 – Environmental Science

School:	**School of Science**
Subject Area:	**Ocean Science**
Course Credit:	**3**
Instructor:	**LAM Ka Sin Cindy / YAU Sin Ting Cynthia**
Pre-requisite/co-requisite:	**Nil**

Notes:

- The syllabi provided here is for reference only and may be subject to changes and adjustments as determined by the course instructors.

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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 per week.

Course Assessment (TENTATIVE)

- Midterm Examination (about 40 %)
- Final Examination (about 60%)

Major Reference

Cunningham, W.P. and Cunningham, M.A. (2020) *Principles of Environmental Science: Inquiry and Application.* 9th Edition. McGraw-Hill Companies, Inc.

Lecture Outline and Schedule (TENTATIVE)

Lecture Topic
Part 1: Matter & Energy (Chapters 2 & 13)
1) Course Introduction & Energy, Matter and Resources in the Environment (I)
2) Energy, Matter and Resources in the Environment (II)
3) Energy, Matter and Resources in the Environment (III)
Part 2: Biomes & Biodiversity (Chapter 5)
4) Earth's Major Biomes (I)
5) Earth's Major Biomes (II)
6) Biodiversity & Its Significance (I)
7) Biodiversity & Its Significance (II)
Part 3: Food & Nutrition (Chapter 7)
8) Food Security & Nutrition (I)
9) Food Security & Nutrition (II)
10) **Midterm Exam**
Part 4: Human Populations & Sustainability (Chapter 4)
11) Human Populations & Sustainability (I)
12) Human Populations & Sustainability (II)
Part 5: Environmental Health & Toxicology (Chapter 8)
13) Environmental Health
14) Environmental Toxicology
Part 6: Atmosphere, Climate & Pollution (Chapter 9)
15) Atmosphere: Air Circulation and Climate
16) Atmosphere: Greenhouse Gases and Renewable Energy
17) Air Pollution: Acid Rain, Ozone, Ocean Acidification
Part 7: Water Resources & Pollution (Chapter 10)
18) Water Supply, Usage and Cycle
19) Water Conservation and Technology
20) Aquatic Hypoxia and Eutrophication
21) Water Pollution and Remediation
Part 8: Microplastics
22) Microplastics: Global and Local Impacts
23) Microplastics: Detection and Removal
Part 9: Solid & Hazardous Wastes (Chapter 13)
24) Solid Wastes and Remediation (I)
25) Solid Wastes and Remediation (II)