

OCES 1030 - Environmental Science

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 systems, biodiversity and biomes, natural resources, sustainability, and their inter-relationships;
- 2) develop a broad interest in the environment and connect the knowledge to their major study;
- 3) explain the importance of harmony among humans, 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

- Midterm Examination (45 %)
- Final Examination (45%)
- In-class Quizzes through iPRS (10%)

Course Coordinators and Instructors

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Major Reference

Cunningham, W.P. and Cunningham, M.A. (2023) *Principles of Environmental Science: Inquiry and Application*. 10th Edition. McGraw-Hill Companies, Inc.

E-book version of the textbook is available via the publisher.

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