

CNEO-LSCI 1032 Global Environmental Pollution (全球环境污染)

Day & Time: 9:00am to 12:00pm (22/7/2025-7/8/2025)

Mode: Face-to-face meeting

Language: English, and supplemented with Mandarin

Instructor: Professor Martin Tsui (Science Centre South Block, Room 288) e-mail: mtktsui@cuhk.edu.hk

日期和时间：上午 9:00 至中午 12:00 (22/7/2025-7/8/2025)

方式：面对面参加

语言：主要英语，辅以普通话

导师：徐子祺教授 (办公室在科学馆南座288室) 电邮: mtktsui@cuhk.edu.hk

Course description:

This course aims to give students a scientific overview of different environmental pollution issues in the planet Earth and will look into the scientific basis and find out potential solution to different environmental pollution problems. The class will cover topics related to different ecosystem types on the planet, global climate change, water shortage, nutrient enrichment, toxic chemicals pollution and their impacts, and other emerging environmental topics. The course will cover the basic concepts of ecology, environmental sciences, microbiology, plant and animal sciences, ecotoxicology, and environmental sustainability. Case studies will be provided to help the students better grasp the underlying principles.

课程描述：

本课程旨在让学生对地球上的不同环境污染问题有一个科学基本的认识，并探讨其科学依据并找出不同环境污染问题的潜在解决方案。本课程将涵盖与地球上不同生态系统类型、全球气候变化、水资源短缺、营养过多、有毒化学物质污染及其影响，以及其他新兴环境相关的主题。本课程将涵盖生态学、环境科学、微生物学、植物和动物科学、生态毒理学和环境可持续性的基本概念。本课程将提供案例研究，以帮助学生更好地掌握基本原理。

Learning outcomes:

After completing this course, students are expected to:

- understand the fundamental processes in environmental pollution around the world.
- understand the basic concepts and the right pathways leading to reduction in pollution status.
- know how to design and conduct an environmental project in solving some environmental problems.

学习成果：

完成本课程后，学生应：

- 进一步了解世界各地环境污染的基本过程。
- 进一步了解减少污染状况的基本概念和正确途径。
- 进一步知道如何设计和实施环境项目来解决一些环境问题。

Schedule:

Date		Topics	In-class activities and assessments
22/7	Tu	Course overview; Major global environmental issues	
23/7	W	Ecosystem types, services, and their stressors	
24/7	Th	Global climate change	
25/7	F	Wetland function and consequences of wetland loss; water cycle and shortage problems	
28/7	M	Urbanization and its environmental consequences	Midterm exam (last hour)
29/7	Tu	Global carbon cycle	
30/7	W	Nutrient cycling and eutrophication	
31/7	Th	Inorganic pollutants; anions and heavy metals	
1/8	F	Organic pollutants, and emerging micropollutants	
4/8	M	Environmental monitoring of pollution	Final exam (last hour)
5/8	Tu	Student group presentations and discussions	
6/8	W	Student group presentations and discussions	
7/8	Th	Student group presentations and discussions	

课程日程:

日期		主题	课堂活动和评估
22/7	二	课程概观；全球主要环境问题	
23/7	三	生态系统类型、生态服务及其压力源	
24/7	四	全球气候变化	
25/7	五	湿地功能及湿地丧失的后果；水循环和短缺问题	
28/7	一	城市化及其环境后果	期中考试（最后一小时）
29/7	二	全球碳循环	
30/7	三	养分循环与富营养化	
31/7	四	无机污染物；阴离子和重金属	

1/8	五	有机污染物和新兴微污染物	
4/8	一	污染环境监测	期末考试（最后一小时）
5/8	二	学生小组演讲和讨论	
6/8	三	学生小组演讲和讨论	
7/8	四	学生小组演讲和讨论	

Evaluation:

Assessment Type	Percentage for final grade
Midterm exam	30%
Final exam (non-cumulative)	30%
In-class presentations and discussions	40%

评估：

评估类型	最终成绩的百分比
期中考试	30%
期末考试（非累积）	30%
课堂演讲和讨论	40%

Required Readings:

Lecture handout for each of the topics will be uploaded to the accompanied course site (i.e., Blackboard) prior to each lecture, and thus students can study them on their electronic devices. Students do not need to purchase any textbook.

必读读物：

每个主题的讲课的讲义将在每次讲座之前上传到随附的课程网站(Blackboard)，以便学生可以在电子设备上学习。学生无需购买任何教科书。