

# 2024-Fall Global Environment (EVSE575-01) The course syllabus

## 1. Course Information

Course No.	EVSE575	Section	01	Credit	3.00
Category	Major elective	Course Type	Classroom Course	prerequisites	
Postechian Core Competence	<input type="checkbox"/> Interpersonal Relationship <input type="checkbox"/> Global Citizenship <input type="checkbox"/> Knowledge Research <input type="checkbox"/> Digital Literacy <input type="checkbox"/> Self Management <input type="checkbox"/> Creative Convergence				
Hours	TUE, THU / 11:00 ~ 12:15 / Environ Bldg[208]Seminar Room			Grading Scale	G

## 2. Instructor Information

	Name	Lee Kitack	Department	Div. of Environmental Science & Eng.
	Email address	ktl@postech.ac.kr	Homepage	<a href="http://climate.postech.ac.kr/">http://climate.postech.ac.kr/</a>
	Office		Office Phone	054-279-2285
	Office Hours			

## 3. Course Objectives

The course "Global Change" is primarily concerned with emerging Earth environmental changes. This course explicitly covers the biogeochemical cycles of pollutants: the complete path that a pollutant takes through biosphere, atmosphere, hydrosphere, and lithosphere. Topics also include the factors that control the composition of seawater, the processes by which the sea affects the atmosphere and the solid earth below, the interactions the organisms that live in the sea, and carbon and nitrogen cycles during the Anthropocene.

## 4. Prerequisites & require

College Chemistry  
College Biology

## 5. Grading

- (1) one examination (40%)
- (2) Reports (25%)
- (3) Paper presentation (15%)
- (4) Group Discussion (20%)

## 6. Course Materials

Title	Author	Publisher	Publication Year/Edition	ISBN
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## 7. Course References

- (1) M.E. Pilson, An Introduction to the Chemistry of the Sea, Prentice Hall, 1998.
- (1) J.P. Riley & R. Chester, "Introduction to Marine Chemistry", Academic Press, 1981.(2) W.S. Broecker & T.-S. Peng, "Tracers in the Sea", Columbia University, 1982.

## 8. Course Plan

- Topic 1: Origin of the Earth and ingredients for life
- Topic 2: Habitable Earth
- Topic 3: Venus versus Earth
- Topic 4: Complex Earth systems
- Topic 5: Atmospheric oxygen and carbon dioxide-Measure of Earth biosphere
- Topic 6: Gas exchange processes at the air-water interface
- Topic 7: Seawater compositions (Major and minor components)
- Topic 8: Gases other than carbon dioxide
- Topic 9: Marine carbonate system
- Topic 10: Fossil fuel carbon dioxide
- Topic 11: Nutrients for life
- Topic 12: Fate of organic matter in the ocean
- Topic 13: Environmental applications of radioisotopes

Topic 14: Environmental applications of stable isotopes  
Topic 15: Large-scale earth processes

## 9. Course Operation

## 10. How to Teach & Remark

## 11. Supports for Students with a Disability

- Taking Course: interpreting services (for hearing impairment), Mobility and preferential seating assistances (for developmental disability), Note taking (for all kinds of disabilities) and etc.
- Taking Exam: Extended exam period (for all kinds of disabilities, if needed), Magnified exam papers (for sight disability), and etc.
- Please contact Center for Students with Disabilities (279-2434) for additional assistance