



Korea University International Summer Campus (KU ISC) 2024

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June 26, 2024 - August 1, 2024

ISC220 – Sustainable Geoscience

I . Instructor

Professor	:	Lee, Young Jae
E-mail	:	youngjlee@korea.ac.kr
Home Institution	:	Korea University
Class Time	:	10:50 AM - 12:30 PM (P2)
Office	:	Mediheal Earth & Environmental Science Bld., Rm #503, Korea University
Office Hours	:	Tue. 9:30-10:30 AM or by prior arrangement (email, please)

II. Textbook

Required Textbook	:	Introduction to Environmental Geology by Edward A. Keller, 5th edition
Recommended Additional Readings	:	1. Understanding Earth by John Grotzinger & Thomas H. Jordan, 7 th edition 2. Physical Geology by Charles (Carlos) C. Plummer et al.

III. Course Description and Objectives

This course is for students whose majors are non-sciences and sciences with a little background in sustainable geosciences. The course focuses on a solid foundation in the fundamental geological processes and how these processes relate to environmental issues and sustainability. It equips students with the knowledge to assess and address environmental problems through a geological perspective, which is essential for pursuing sustainable solution. This class also discusses how geological processes affect the environment and how these processes can both create and mitigate environmental challenges. The class includes topics such as water pollution, natural hazards like earthquakes and landslides, and the geological aspects of resource depletion. A significant part of the course deals with human impacts on the Earth system. It examines how activities such as mining, deforestation, and urban development affect geological and hydrological systems and how these impacts can be managed or mitigated through sustainable practices. This course also explores the sustainable management of natural resources such as water, minerals, and energy sources.

IV. Grading

Midterm Exam	:	40 points
Final Exam	:	40 points
Assignments	:	10 points
Participation	:	10 points

V . Class Outline*

Date	Topic	Chapter	Remarks
June 26 (Wed)	Orientation Day		
June 27 (Thu)	<i>Overview and basic concepts</i>	Chapt. 1	
June 28 (Fri)	<i>Earth materials, processes, and cycles</i>	Chapt. 2 & 3	
July 1 (Mon)	<i>Earth materials, processes, and cycles</i>	Chapt. 2 & 3	
July 2 (Tue)	<i>Natural Hazards</i>	Chapt. 5	
July 3 (Wed)	<i>Earthquakes</i>	Chapt. 6	
July 4 (Thu)	<i>Rivers and Flooding</i>	Chapt. 9	
July 5 (Fri)	<i>Rivers and Flooding</i>	Chapt. 9	
July 8 (Mon)	<i>Landslides</i>	Chapt. 10	
July 9 (Tue)	<i>Coastal Processes</i>	Chapt. 11	
July 10 (Wed)	<i>Coastal Processes</i>	Chapt. 11	
July 11 (Thu)	Midterm test		
July 15 (Mon)	<i>Water Resources and Groundwater</i>	Chapt. 13	
July 16 (Tue)	<i>Water Resources and Groundwater</i>	Chapt. 13	
July 17 (Wed)	<i>Water Pollution</i>	Chapt. 14	
July 18 (Thu)	<i>Waste Management</i>	Chapt. 14	
July 22 (Mon)	<i>Soils and Soil Erosion</i>	Chapt. 17	
July 23 (Tue)	<i>Soils and Soil Erosion</i>	Chapt. 17	
July 24 (Wed)	<i>Energy Resources</i>	Chapt. 16	
July 25 (Thu)	<i>Energy Resources</i>	Chapt. 16	
July 29 (Mon)	<i>Global Climate Change</i>	Chapt. 18	
July 30 (Tue)	<i>Global Climate Change</i>	Chapt. 18	
July 31 (Wed)	Final exam		
Aug 1 (Thu)	Graduation Day		

*Topics and dates may change. Watch course web page for updates.
Chapt. 14