



COURSE OUTLINE

(1) GENERAL

SCHOOL	School of Technology		
ACADEMIC UNIT	Department of Environmental Sciences		
LEVEL OF STUDIES	Undergraduate		
COURSE CODE	AY106	SEMESTER	1st
COURSE TITLE	ENVIRONMENTAL GEOLOGY		
INDEPENDENT TEACHING ACTIVITIES	WEEKLY TEACHING HOURS		CREDITS
Teaching Hours		4	5
COURSE TYPE	General Background		
PREREQUISITE COURSES	None		
LANGUAGE OF INSTRUCTION and EXAMINATIONS	Greek		
IS THE COURSE OFFERED TO ERASMUS STUDENTS	Yes		
COURSE WEBSITE (URL)	https://eclass.uth.gr/courses/ENV_U_122		

(2) LEARNING OUTCOMES

Learning outcomes
<p>The aim and objective of this Geology course is the clear and comprehensible presentation, description and analysis of the basic concepts and fundamental laws and principles that govern the discipline, so that students acquire the necessary basic geological knowledge and the ability to apply it to the whole range of geotechnical and environmental sciences. Environmental geology is concerned with the study of the environmental impacts (soil, water and air pollution) associated with geological processes within and on the Earth's surface, and with the impacts associated with projects and activities (refuse, sewage, wastes, toxic substances, mining and quarrying waste, overexploitation of natural and mineral resources, etc.). Environmental geology is the branch of geology that deals with the application of geological information to minimize environmental impacts and maximize potential favourable conditions resulting from the use of the natural environment. In a broader sense, environmental geology is the branch of geoscience that deals with the full range of human interventions in the natural environment.</p> <p>Upon successful completion of the course, students should be able to:</p> <ul style="list-style-type: none">• Macroscopically identify a rock.• Understand the physical processes taking place in the environment.• Distinguish geological formations in nature.• Comprehend the natural geology of the earth.• Distinguish tectonic elements in nature.• Understand the use and suitability of different geological formations for environmental projects.• Understand the importance of geological formations in terms of deposits.• Use the knowledge and skills acquired to prepare geotechnical studies.• Comprehend the interactions between people and geological processes.• Understand the environmental issues of the past, present and future and how they affect the earth and our society.
General Competences
<ul style="list-style-type: none">• Search for, analysis and synthesis of data and information, with the use of the necessary technology• Decision-making• Working independently• Team work• Respect for the natural environment• Criticism and self-criticism• Production of free, creative and inductive thinking

(3) SYLLABUS

- Introduction to Earth's features: the Earth system.
- The Earth's system (structure - composition).
- Petrogenetic minerals.
- Rocks (igneous, sedimentary, metamorphic).
- Geological cycle.
- Exogenous forces: Effect of water, ice, seas and wind.
- Earth's evolution (fossils, rock deformation, erosion).
- Geological Sources - Karst phenomena.
- Geodynamic phenomena: earthquakes, volcanoes.
- Mineral resources (ores, energy - quarrying - industrial minerals).
- Geological structures - Geological maps: ground - subsurface survey tools, geological surfaces - geological lines.
- Reading topographic maps, main characters - topographic map illustration, map reading, topographic maps and geological - geomorphological information, drawing a topographic section.
- Elements of Geology and Geodynamics of Greece.

(4) TEACHING and LEARNING METHODS – EVALUATION

DELIVERY	Face-to-face	
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY	<ul style="list-style-type: none"> • Use of PowerPoint slides • View material in video • Communication with students via e-mail • Use of asynchronous distance learning (e-class) 	
TEACHING METHODS	Activity	Semester workload
	Lectures	50
	Study and analysis of bibliography	50
	Written work	25
	Course total	125
STUDENT PERFORMANCE EVALUATION	<p>Students' performance is evaluated in the Greek language. The final grade is determined by:</p> <ul style="list-style-type: none"> • A written exam (at the end of the semester) that contributes 70% to the final grade, applying one or more of the following evaluation methods: Multiple choice questions, short-answer questions, problem solving. • The elaboration of an individual or group written project, in the 2nd half of the semester, which forms 30% of the final grade. The written project may be presented by the students in class. <p>Final Grade = 70% Exam Grade + 30% Written project grade</p>	

(5) ATTACHED BIBLIOGRAPHY

- Evelpidou, N. (2020) *Geomorphology*. Thessaloniki: TZIOLA Publications (in Greek) ISBN: 978-960-418-605-1.
- Kokkinou, E. (2015) *Environmental geology and geotechnology*. Kallipos Repository- Open Academic Editions., www.kallipos.gr . (in Greek) ISBN: 978-960-603-036-9.
- Rodogianni-Tsiambaou, Th. (2023) *Geology* (2nd edition) Thessaloniki: TZIOLA Publications. (in Greek) ISBN: 9789604189908.
- Savvidis, S. (2019) *Environmental Technical Geology* (1st edition) Alexandrosikebooks. (in Greek) ISBN: 978-618-84448-4-3.