

COURSE OUTLINE

1. GENERAL

SCHOOL	APPLIED SCIENCES		
DEPARTMENT	ENVIRONMENTAL ENGINEERING		
LEVEL OF STUDY	Undergraduate		
COURSE UNIT CODE	GE5140	SEMESTER OF STUDY	1°
COURSE TITLE	ENVIRONMENTAL GEOLOGY		
COURSEWORK BREAKDOWN		TEACHING WEEKLY HOURS	ECTS Credits
Lectures, Laboratory Exercises		6	6.0
COURSE UNIT TYPE	SBC		
PREREQUISITES :	Non		
LANGUAGE OF INSTRUCTION/EXAMS:	Greek/English		
COURSE DELIVERED TO ERASMUS STUDENTS	YES		
MODULE WEB PAGE (URL)	http://geope.teikoz.gr/undergraduate/ug_studies.htm		

2. LEARNING OUTCOMES

Learning Outcomes

Aim and target of Geology, is the comprehension and clear presentation, description and analysis of the basic concepts and the fundamental laws and principles of the discipline of Geology, so that the students will acquire the necessary basic geological know ledges and the ability to apply geotechnical, technical and environmental sciences.

On successful completion of this module the learner will be able to:

1. understand and represent clearly the basics and fundamentals of the Geological science, in order to use and apply them in the range of geotechnical, technical and environmental sciences.
2. Recognize the most important petro genetic minerals.
3. Recognize the most important types of rocks.
4. Recognize the different geological tectonic forms (faults ect.).
5. Use geological maps.

General Skills

Upon successful completion of the programme students will:

- have the basic theoretical and practical knowledge in the fields of the subject area of Geotechnology and Environmental Engineering*
- be able to properly apply the theoretical and practical knowledge acquired during the study period*
- be able to cover a wide spectrum of scientific and technical knowledge related to mining and geotechnical projects as well as the sector of environmental reclamation*
- have gained the necessary competencies to proceed to their second cycle study*

3. COURSE CONTENTS

- Introduction to geology,
- planet Earth (age, structure, composition).
- Continents, Oceans, Lithosphairic layers,
- Earthquakes, Volcanology,
- Petrogenetic ores,
- Rocks (Igneous, Sedimentary, Metamorphic),
- Geologic Cycle, Orogenetic systems,
- Morphology-topographic Maps,
- Exogenous Forces: Water-ice-wind effects. Earth evolution (fossils, rock deformations, erosion).
- Tectonic Geology (Geologic maps, faults, folding).
- Karsting phenomena
- Minerals (metallogenetic, industrial, ect)
- Technical Geology: Soil mechanics-Rock mechanics-Technical Projects,
- Environmental Geology,
- Brief reference to Greek geological background

4. TEACHING METHODS - ASSESSMENT

MODE OF DELIVERY	Face-to-face	
USE OF INFORMATION AND COMMUNICATION TECHNOLOGY		
TEACHING METHODS	<i>Method description</i>	<i>Semester Workload</i>
	Theory	60
	Laboratory Exercises	40
	Field trips	40
	Field Applications	30
	Personal Learning	20
	Total of lesson	190
ASSESSMENT METHODS	<p>I. Written final examination (50%) comprising:</p> <ul style="list-style-type: none"> - Short Answer Questions - Questions test development <p>II Final exam on macroscopic identification of rocks and rock forming minerals (50%).</p>	

5. RESOURCES

- Recommended Book Resources:

- Recommended Article/Paper Resources:

- Σεραφείμ Σαββίδης 2007, Environmental Engineering Geology, S.G.S, Κοζάνη, Ελλάδα.

- N.E. ΔΑΒΗ, Μαθήματα Γενικής Γεωλογίας, Εκδόσεις Συμμετρία, Αθήνα 1991.
- N.E. ΔΑΒΗ, Πετρολογία, Εκδόσεις Συμμετρία, Αθήνα 1991.
- Ε.Α. ΧΑΤΖΗΔΗΜΗΤΡΙΑΔΗΣ, Στοιχεία Γενικής Γεωλογίας, Θεσσαλονίκη, 1990.
- Γ.Π. ΜΙΓΚΙΡΟΣ, Βασικές αρχές και έννοιες στη Γεωλογία, Αθήνα, 1996.
- Ν.Δ. ΜΙΣΟΠΟΛΙΝΟΣ, Γεωλογία – Πετρογραφία, Εκδόσεις Γιαχούδη-Γιαπούδη, Θεσσαλονίκη, 1990.
- A. MONTANA, R. CRESPI, G. LIBORIO, Guide to Rocks and Minerals, Simon & Schuster's, New York, 1988.
- R.W. ΟΙΑΚΑΝΓΑΣ, Introductory Geology, Shaum's Outline series, McGraw Hill Inc., New York, 1991.
- C.W. MONTGOMERY, Fundamentals of Geology, WCP Publishers, 1997.
- R. THORPE, G. BRAUN, The field description of igneous rocks, John Wiley & Sons, Chichester, 1995.
- N. FRY, The field description of metamorphic rocks, John Wiley & Sons, Chichester, 1997.
- M.E. TUCKER, Sedimentary rocks in the field, John Wiley & Sons, Chichester, 1993.

SBC: Specific Background Courses