

COURSE OUTLINE

1. GENERAL

SCHOOL	APPLIED SCIENCES		
DEPARTMENT	ENVIRONMENTAL ENGINEERING		
LEVEL OF STUDY	UNDERGRADUATE		
COURSE UNIT CODE	GE5640	SEMESTER OF STUDY	6
COURSE TITLE	APPLIED GEOPHYSICS		
COURSEWORK BREAKDOWN		TEACHING WEEKLY HOURS	ECTS Credits
THEORY, LABORATORY EXERCISES		4	2
COURSE UNIT TYPE	SC: Specialization Courses		
PREREQUISITES :			
LANGUAGE OF INSTRUCTION/EXAMS:	GREEK		
COURSE DELIVERED TO ERASMUS STUDENTS			
MODULE WEB PAGE (URL)	http://geope.teikoz.gr/undergraduate/ug_studies.htm		

2. LEARNING OUTCOMES

Learning Outcomes
<p>This module aims to provide students with both a theoretical and practical understanding of the principal geophysical methods used to determine remotely the shallow structure and composition of the Earth.</p> <p>Students will explore applications of geophysical investigation in environmental geology, mineral exploration, oil and gas exploration, hydrogeology, geotechnical engineering and archaeology.</p> <p>On successful completion of this module the learner will be able to:</p> <ul style="list-style-type: none"> • understand the relationships between geophysical and other physical properties of earth materials • understand the principles, survey design, and survey interpretation of a range of geophysical methods including: gravimetry, magnetometry, electrical resistivity, electromagnetic induction and seismic surveys • undertake a geophysical survey and make an interpretation of geophysical data
General Skills
<p>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</p> <ul style="list-style-type: none"> • Search, analysis and synthesis of data and information

- Autonomous working
- Team work

3. COURSE CONTENTS

- Geophysical methods
- Gravity methods
- Magnetic methods
- Electrical methods
- Electromagnetic methods
- Seismic methods

4. TEACHING METHODS - ASSESSMENT

MODE OF DELIVERY	Face to face	
USE OF INFORMATION AND COMMUNICATION TECHNOLOGY	Power point presentations and self-assessment test in the Blackboard. Student contact electronically.	
TEACHING METHODS	Method description	Semester Workload
	lectures	35
	laboratory work	35
	field work	10
	autonomous study	35
	Total	115
ASSESSMENT METHODS	Final Written Examination (60%) Laboratory Exercises Written Examination (40%)	

5. RESOURCES

- Recommended Book Resources:

- ARAMPELOS, D. (1995). Geophysical prospecting Data. Ziti editions, 288 pp. {ΑΡΑΜΠΕΛΟΣ, Δ. (1995). *Στοιχεία Γεωφυσικών Διασκοπήσεων*. Εκδόσεις Ζήτη, 288 σελ.}
- DEMIRIS, K. A. (1993). Engineering Geology. Investigation of Geological Formations. Publisher University Studio Press, 308 pp. [ISBN: 9601201041]. {ΔΕΜΙΡΗΣ, Κ. Α. (1993). *Τεχνική Γεωλογία. Διερεύνηση των Γεωλογικών Σχηματισμών*. Εκδότης University Studio Press, 308 σελ. [ISBN: 9601201041].}
- PAPADOPOULOS, T. (2010). Introduction to Geophysics. Publisher new technologies Unit. Ltd., 300pp. [ISBN: 978-960-6759-499]. {ΠΑΠΑΔΟΠΟΥΛΟΣ, Τ., (2010). *Εισαγωγή στη Γεωφυσική*. Εκδόσεις νέων τεχνολογιών Μον. ΕΠΕ., 300 σελ. [ISBN: 978-960-6759-499].}
- PAPAACHOS, B. (1996). Introduction to Applied Geophysics. Publisher Ziti Pelagia & co., 322pp. [ISBN: 960-431-359-2]. {ΠΑΠΑΖΑΧΟΣ, Β. (1996). *Εισαγωγή στην Εφαρμοσμένη Γεωφυσική*. Εκδόσεις Ζήτη Πελαγία & Σια Ο.Ε., 322 σελ. [ISBN: 960-431-359-2].}
- TELFORD, W. M., GELDART, L. P. & SHERIFF, R. E. (1990). *Applied Geophysics*. Cambridge University Press, pp. 770. [ISBN: 0-521-32693-1].- Recommended Article/Paper Resources:

