

COURSE OUTLINE

1. OVERVIEW

FACULTY	FACULTY OF HUMANITIES AND SOCIAL SCIENCES		
SECTION	DEPARTMENT OF PRIMARY EDUCATION		
LEVEL OF STUDY	UNDERGRADUATE		
COURSE TITLE			
Experimental Teaching of Physical Sciences			
COURSE CODE	ΦΕ0302	SEMESTER	5, 7
HOURS per WEEK	3	ECTS	4
COURSE CATEGORY	Elective	COURSE TYPE	Scientific area
LANGUAGE OF INSTRUCTION AND EXAMINATIONS	Modern Greek	PREREQUISITES	-
OFFERED TO ERASMUS	NO	ECLASS PAGE	https://eclass.uth.gr/courses/PRE_U_225/

2. LEARNING OUTCOMES

Learning Outcomes
<p>Upon successful completion of the course, students are expected to:</p> <ul style="list-style-type: none"> conceptualize Physical Sciences basic concepts through inquiry identify, describe and apply a groupwork experimental approach in science teaching for primary school select and use of instruments and devices to the science laboratory comply with basic safety rules of a science laboratory design and construct simple instruments and apparatus for the purposes of primary school level experimental activities
General Competencies
<p>Data and information search, analysis and synthesis, using IT as needed</p> <p>Teamwork</p> <p>Critical and self-critical thinking</p> <p>Advancement of free, creative and inductive thinking</p> <p>Time management</p>

3. CONTENT

<p>The experiment as a method of inquiry.</p> <p>The advancement of experimentation skills.</p> <p>Nature of Light and Geometric Optics.</p> <p>Matter, substances and materials.</p> <p>Force, deformation and motion.</p> <p>Energy.</p> <p>Electromagnetism.</p> <p>Fluids.</p>
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4. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING MODE	In person		
USE OF ICT	Communication: Webmail, eClass		
COMPULSORY ATTENDANCE	YES	MAXIMUM NUMBER OF ABSENCES:	2
TEACHING ORGANIZATION	Activity		Semester Workload (hours)
	Laboratory exercise		39
	Essay writing		52

	Course total	91	
EVALUATION			
	<i>Type</i>	<i>Format</i>	<i>Weighting</i>
	Lab reports		100%
Evaluation method: 12 weekly lab reports writing. The first 4 have formative assessment role. The last 8 are counted in the grading.			

5. RECOMMENDED BIBLIOGRAPHY

Textbooks (Eudoxus)
Αρναουτάκης Ι., Καρανίκας Γ., Καραπαναγιώτης Β. (2005) Πειράματα φυσικής, Αθήνα, Εκδόσεις Γρηγόρη
Harlen Wynne, Elstgeest Jos (2005). Unesco. Διδασκαλία και μάθηση των φυσικών επιστημών στην πρωτοβάθμια εκπαίδευση. Γ. ΔΑΡΔΑΝΟΣ - Κ. ΔΑΡΔΑΝΟΣ Ο.Ε.
Other Books & Notes
Laboratory guide and notes published in eclass.
Hewitt, P.G. (2004). Οι έννοιες της Φυσικής. Ηράκλειο : Πανεπιστημιακές εκδόσεις Κρήτης
Scientific Journals
Scientific Articles
Other