

## COURSE OUTLINE

### 1. OVERVIEW

FACULTY	FACULTY OF HUMANITIES AND SOCIAL SCIENCES		
SECTION	DEPARTMENT OF PRIMARY EDUCATION		
LEVEL OF STUDY	UNDERGRADUATE		
COURSE TITLE			
Earth Sciences - Concepts and Education			
COURSE CODE	ΦΕ1301	SEMESTER	6, 8
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	<a href="https://eclass.uth.gr/courses/PRE_U_169/">https://eclass.uth.gr/courses/PRE_U_169/</a>

### 2. LEARNING OUTCOMES

<b>Learning Outcomes</b>
<p>Upon successful completion of the course, students are expected to:</p> <ul style="list-style-type: none"> <li>recognize the diversity and uniformity of Earth's natural environment, structures, and processes and the interdisciplinarity of their study</li> <li>recognize and describe the core concepts of the "system" and the "sphere" in the study of the Earth's natural environment</li> <li>recognize and describe the primary characteristics of a group of processes to be considered as "cycle"</li> <li>recognize and describe the difference in "geological" and "historical" time scales</li> <li>use educational material on concepts and phenomena of the Earth's natural environment at the level of primary education</li> <li>evaluate, select and produce educational material on concepts and phenomena of the Earth's natural environment for the purposes of primary school education</li> <li>connect pieces of knowledge in a holistic worldview</li> </ul>
<b>General Competencies</b>
<p>Data and information search, analysis and synthesis, using IT as needed</p> <p>Adaptability to new situations</p> <p>Teamwork</p> <p>Work in interdisciplinary contexts</p> <p>Respect for the natural environment</p> <p>Critical and self-critical thinking</p> <p>Advancement of free, creative and inductive thinking</p>

### 3. CONTENT

<p>The Solar system</p> <p>Space and Time on Earth: Orbits and Rotations of Earth and Moon</p> <p>Maps and models</p> <p>Lithosphere: Earth's interior and lithospheric plates. Earth's Relief. Earthquakes and Tsunami. Volcanoes</p> <p>Atmosphere: Characteristics and Solar Energy</p> <p>Hydrosphere and Atmosphere: Atmospheric and Marine Circulation. Weather and Climate</p> <p>Hydrosphere and Lithosphere: Horizontal Earth's Partition. Terrain and soil. Water cycle.</p> <p>Matter and Energy: Photosynthesis. Carbon cycle. Fossil fuels. Air Disturbances and Pollution</p> <p>Energy: Wind and Solar power. Hydropower. Energy of the Oceans. Geothermal and Nuclear power. Retention and conversions. Renewable, non-renewable and low-carbon energy sources.</p> <p>Human and the environment: Natural resources. Sewage, litter and waste. Pollution of water. Soil contamination.</p>
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#### 4. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING MODE	In person		
USE OF ICT	Teaching and learning: Slide show, specialized internet sources, office apps Communication: Webmail, eClass		
COMPULSORY ATTENDANCE	NO	MAXIMUM NUMBER OF ABSENCES:	
TEACHING ORGANIZATION	Activity		Semester Workload (hours)
	Tutorial		39
	Literature study & analysis		26
	Implementation of a study (project)		26
	Examination		1
	Course total		92
EVALUATION			
	Type	Format	Weighting
	Final written exam	<input checked="" type="checkbox"/> Multiple Choice Questions	40%
	Report		30%
	Public presentation		30%
Description of other evaluation method / Evaluation criteria: Assessment of lesson planning report (30%) Peer review teaching conduction assessment (30%)			

#### 5. RECOMMENDED BIBLIOGRAPHY

<b>Textbooks (Eudoxus)</b>
Κατσίκης, Απόστολος (2004). Δια-θεματική γεωγραφία. ΕΚΔΟΣΕΙΣ ΔΑΡΔΑΝΟΣ Γεωργόπουλος Α., Νικολάου Κ., Δημητρίου Α., Γαβριλάκης Κ., Μπλιώνης Γ. (2014). Γη. Ένας μικρός και εύθραυστος πλανήτης. Γ. ΔΑΡΔΑΝΟΣ ΚΑΙ ΣΙΑ Ε.Ε (Katsikis, Apostolos (2004). Interdisciplinary geography. DARDANOS PUBLICATIONS Georgopoulos A., Nikolaou K., Demetriou A., Gavrilakis K., Blionis G. (2014). Earth. A small and fragile planet. G. DARDANOS AND CO L.P.)
<b>Other Books &amp; Notes</b>
Σκορδούλης Κ., Σωτηράκου Μ. (2005). Περιβάλλον, Επιστήμη και Εκπαίδευση. LIBERAL BOOKS Χαλκιά, Κρυσταλλία (2006). Το ηλιακό σύστημα μέσα στο σύμπαν. ΠΑΝΕΠΙΣΤΗΜΙΑΚΕΣ ΕΚΔΟΣΕΙΣ ΚΡΗΤΗΣ (Skordoulis K., Sotirakou M. (2005). Environment, Science and Education. LIBERAL BOOKS Chalkia, Krystallia (2006). The solar system within the universe. UNIVERSITY OF CRETE PRESS)
<b>Scientific Journals</b>
<b>Scientific Articles</b>
<b>Other</b>