GENERAL

SCHOOL	*NATURAL SCIENCES*		
ACADEMIC UNIT	*BIOLOGY*		
LEVEL OF STUDIES	*UNDERGRADUATE*		
COURSE CODE	BIO_EA4	**SEMESTER**	*5/7*
COURSE TITLE	***ELEMENTS OF GEOLOGY AND PALAEONTOLOGY***		

INDEPENDENT TEACHING ACTIVITIES	**WEEKLY TEACHING HOURS**	**CREDITS**
Lectures and laboratory work	*2 (lect.), 2 (lab.)*	*6*

COURSE TYPE	*Basic and Skills Development, Scientific Field*
PREREQUISITE COURSES:	*Typically, there are not prerequisite courses*
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	*Greek*
IS THE COURSE OFFERED TO ERASMUS STUDENTS	*Yes, teaching may be however offered in English in case foreign students attend the course.*
COURSE WEBSITE (URL)	https://eclass.upatras.gr/courses/BIO336/ *(in Greek)*

LEARNING OUTCOMES

Learning outcomes

Upon successful completion of this course the students will be able to:

- *understand the basic principles of geology and palaeontology*
- *interpret the the dynamics of the planet*
- *identify and appreciate the evolution of the living and abiotic world*
- *apply methods and practices for extracting results in relation to maps and the stratigraphy of an area*
- *know about the fossils which are the proof of evolution, and their use in geological research*
- *distinguish fossilized from extant organisms*
- *know about the origin, development and evolution of life, what extinction events are, when they occur and what impact they have on the evolution of life*
- *understand that land is a constantly changing world and these changes are directly related to the evolution and shaping of life on earth.*

General Competences

Generally, by the end of this course the student will, furthermore, have developed the following general abilities:

- *Adjusting to new conditions.*
- *Independent work.*
- *Group work.*
- *Working in a multidisciplinary environment*
- *Respecting the environment.*
- *Promoting free and creative thinking.*
- *Generating new research ideas.*

SYLLABUS

Theory

- *Characteristics and dynamics of planet Earth.*
- *Geological time and dating*
- *Introduction to Petrography*
- *Evolution of the climate and the environment in the history of the Earth.*
- *Fossils - Fossilization - Fossil Categories – Types of Fossilisation - Types of Fossils*
- *Palaeontological Species Definition*
- *Palaeoecology - Taphonomy.*
- *What life is - Appearance and evolution of life on Earth – Extinction events*
- *Life during the Cryptozoic Eon*
- *Life during the Phanerozoic Eon*
- *Evolution of Vertebrates: fishes, amphibians, reptiles, birds, mammals, primates.*

Practical

- *Positioning and map building*
- *Analysis and interpretation of granulometric data*
- *Interpretation of palaeoenvironmental data*
- *Study of fossils*
- *Familiarizing with some of the most important and common groups of organisms we encounter as fossils and which appeared and dominated during the Phanerozoic Eon.*

TEACHING and LEARNING METHODS - EVALUATION

DELIVERY	*Lectures and laboratory practice face to face.*
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY	*Use of Information and Communication Technologies (ICTs) (powerpoint) in teaching.* *Supporting teaching and communication through e-class.* *The lectures content of the course are uploaded on the e-class platform, in the form of a series of ppt files, from where the students can freely download them.*
TEACHING METHODS	

Activity	***Semester workload***
Lectures (2 conduct hours per week x 13 weeks)	*2X13 = 26*
Laboratory work (2 conduct hours per week x 13 weeks)	*2X13 = 26*
Hours for the preparation of laboratory work reports	*23*
Hours for private study of the student	*25*
Course total	***100 hours***

STUDENT PERFORMANCE EVALUATION	***Theory*** *Assessment Language: Greek* *Final Examination: Written, Graded Difficulty, which may include Multiple Choice Test, Short Answer Questions, Essay Development Questions, Problems-Exercises.* ***Rating Scale: 0-8.*** ***Laboratory*** *Assessment of students' participation and performance in exercises given during the semester through written reports for each laboratory exercise.* ***Rating Scale (total): 0-2*** *The final grade of the course is the sum of the grades of the Theory and the Laboratory.* ***Minimum Pass Grade: 5***

ATTACHED BIBLIOGRAPHY

- Suggested bibliography:
Prothero, R.D., 1998, Bringing fossils to life: An introduction to palaeobiology, WCB/McGraw-Hill
Clarkson, E., 1998, Invertebrate Palaeontology and evolution, Wiley-Blackwell
Benton M.J., 2005, Vertebrate Paleontology, Blackwell Science Ltd
Benton M. J., Harper D., A.T., 2009, Introduction to Paleobiology and the Fossil Record , Wiley-Blackwell, Chichester.
Levin, H.,2013, The Earth through time, Wiley
Notes of lecturers in English.