# GENERAL

<table>
<thead>
<tr>
<th>SCHOOL</th>
<th>NATURAL SCIENCES</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACADEMIC UNIT</td>
<td>BIOLOGY</td>
</tr>
<tr>
<td>LEVEL OF STUDIES</td>
<td>UNDERGRADUATE</td>
</tr>
<tr>
<td>COURSE CODE</td>
<td>BIO_EA4</td>
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<tr>
<td>SEMESTER</td>
<td>5/7</td>
</tr>
<tr>
<td>COURSE TITLE</td>
<td>ELEMENTS OF GEOLOGY AND PALAEONTOLOGY</td>
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### INDEPENDENT TEACHING ACTIVITIES

<table>
<thead>
<tr>
<th>WEEKLY TEACHING HOURS</th>
<th>CREDITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lectures and laboratory work</td>
<td>2 (lect.), 2 (lab.)</td>
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</table>

### 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)

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## 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.

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## 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

<table>
<thead>
<tr>
<th>Activity</th>
<th>Semester workload</th>
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<tbody>
<tr>
<td>Lectures (2 conduct hours per week x 13 weeks)</td>
<td>2X13 = 26</td>
</tr>
<tr>
<td>Laboratory work (2 conduct hours per week x 13 weeks)</td>
<td>2X13 = 26</td>
</tr>
<tr>
<td>Hours for the preparation of laboratory work reports</td>
<td>23</td>
</tr>
<tr>
<td>Hours for private study of the student</td>
<td>25</td>
</tr>
<tr>
<td><strong>Course total</strong></td>
<td><strong>100 hours</strong></td>
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#### 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:**
  Clarkson, E., 1998, Invertebrate Palaeontology and evolution, Wiley-Blackwell
  Benton M.J., 2005, Vertebrate Paleontology, Blackwell Science Ltd
  Levin, H., 2013, The Earth through time, Wiley
  Notes of lecturers in English.