## COURSE OUTLINE

### (1) 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 HE9</td>
</tr>
<tr>
<td>SEMESTER</td>
<td>6/8</td>
</tr>
<tr>
<td>DATE</td>
<td></td>
</tr>
</tbody>
</table>

**INDEPENDENT TEACHING ACTIVITIES**  
If credits are awarded for separate components of the course, e.g. lectures, laboratory exercises, etc. If the credits are awarded for the whole of the course, give the weekly teaching hours and the total credits.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Weekly Teaching Hours</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lectures, seminars, and Multimedia displays</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>Laboratory work &amp; exercises</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Educational field-work</td>
<td>One or 2 daily excursions</td>
<td></td>
</tr>
</tbody>
</table>

Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).

**COURSE TYPE**  
Field of Science

**PREREQUISITE COURSES:**  
Typically, there are not prerequisite course. Essentially, the students should possess:  
(a) knowledge provided through the previously taught theoretical courses “Plant Biology”, “Zoology” and "Science of general Biology", and  
(b) laboratory skills obtained through the previously attended laboratory courses.

**LANGUAGE OF INSTRUCTION and EXAMINATIONS:**  
Greek. Teaching may be however performed in English in case foreign Erasmus students attend the course.

**IS THE COURSE OFFERED TO ERASMUS STUDENTS:**  
Yes in English e.g. for Erasmus students

**COURSE WEBSITE (URL)**  
Σφάλμα! Η αναφορά της υπερ-σύνδεσης δεν είναι έγκυρη. eclass.upatras.gr/courses/bio233

### (2) LEARNING OUTCOMES

**Learning outcomes**  
The course learning outcomes, specific knowledge, skills and competences of an appropriate level, which the students will acquire with the successful completion of the course are described.

Consult Appendix A  
- Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area  
- Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B  
- Guidelines for writing Learning Outcomes

By the end of this course the student will be able to:
1. Understand the basic principles of plant communities and their environment
2. Gain fundamental knowledge on the composition, structure, ecology, diversity, distribution and dynamics of plant communities
3. Evaluate the functional adaptations to the abiotic and biotic processes governing plant communities
4. Apply the vegetation ecology principles in nature management, restoration ecology and global change studies

At the end of this course the student will have further developed the following skills/competences:
1. Ability to demonstrate knowledge and understanding of essential facts, concepts, principles and theories of Vegetation Ecology
2. Ability to apply such knowledge and understanding to the conservation of natural habitats and to the solution of ecological issues
3. Ability to interact with others on environmental management of nature, protected areas and their plant communities
4. Study skills needed for continuing professional development

General Competences
Taking into consideration the general competences that the degree-holder must acquire (as these appear in the Diploma Supplement and appear below), at which of the following does the course aim?

<table>
<thead>
<tr>
<th>Search for, analysis and synthesis of data and information</th>
<th>Project planning and management</th>
</tr>
</thead>
<tbody>
<tr>
<td>with the use of the necessary technology</td>
<td>Respect for difference and multiculturalism</td>
</tr>
<tr>
<td>Adapting to new situations</td>
<td>Respect for the natural environment</td>
</tr>
<tr>
<td>Decision-making</td>
<td>Showing social, professional and ethical responsibility and sensitivity to gender issues</td>
</tr>
<tr>
<td>Working independently</td>
<td>Criticism and self-criticism</td>
</tr>
<tr>
<td>Team work</td>
<td>Production of free, creative and inductive thinking</td>
</tr>
<tr>
<td>Working in an international environment</td>
<td>Others...</td>
</tr>
<tr>
<td>Working in an interdisciplinary environment</td>
<td></td>
</tr>
<tr>
<td>Production of new research ideas</td>
<td></td>
</tr>
</tbody>
</table>

Generally, by the end of this course the student will, furthermore, have developed the following general abilities (from the list above):

Adaptation to new situations
Decision making
Autonomous (Independent) work
Group work
Exercise of criticism and self-criticism
Promotion of free, creative and inductive thinking
Respect to natural environment
Work design and management
Introduction to Vegetation Ecology
Environmental parameters. Weather and climate. Soil and soil properties. The ecological role of soils.
Succession of Vegetation
The structure and dynamics of plant communities in Mediterranean type ecosystems. Mediterranean type ecosystems and fire. Desertification and grazing on Mediterranean type ecosystems.
Wetlands. Functions and values of wetland ecosystems. Flora and vegetation of wetland types.
Agro-ecosystems. Structure and function of agro-ecosystems.
Monitoring. Plant species as bio indicators
(4) TEACHING and LEARNING METHODS - EVALUATION

DELIVERY
Face-to-face, Distance learning, etc.

USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY
Use of ICT in teaching, laboratory education, communication with students

Lectures, seminars and laboratory work face to face.

Use of Information and Communication Technologies (ICTs) (e.g. powerpoint) in teaching. The lectures content of the course for each chapter are uploaded on the internet, in the form of a series of ppt files, where from the students can freely download them.

TEACHING METHODS
The manner and methods of teaching are described in detail.
Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, placements, clinical practice, art workshop, interactive teaching, educational visits, project, essay writing, artistic creativity, etc.

The student’s study hours for each learning activity are given as well as the hours of non-directed study according to the principles of the ECTS

<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>26</td>
</tr>
<tr>
<td>Laboratory exercises/work (3 conduct hours per week x 13 weeks)</td>
<td>39</td>
</tr>
<tr>
<td>Field work</td>
<td>16</td>
</tr>
<tr>
<td>Hours for private study of the student and preparation of home-works)</td>
<td>44</td>
</tr>
<tr>
<td>Course total</td>
<td>125</td>
</tr>
</tbody>
</table>

STUDENT PERFORMANCE EVALUATION
Description of the evaluation procedure
Language of evaluation, methods of evaluation, summative or conclusive, multiple choice questionnaires, short-answer questions, open-ended questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory work, clinical examination of patient, art interpretation, other

Specifically-defined evaluation criteria are given, and if and where they are accessible to students.

Written examination at the end of semester

(5) ATTACHED BIBLIOGRAPHY

- Suggested bibliography:
  Γεωργιάδης Θ. 2009. Οικολογία Βλάστησης. Εκδόσεις Παν/μίου Πατρών.
  Δημόπουλος Π. & Πανίτσα Μ., 2017. Οικολογία Φυτών, Εκδόσεις Κατάγραμμα
classification. JNCC, 114pp.


- Related academic journals:

Notes of lecturers in Greek [ΗΛΕΚΤΡΟΝΙΚΑ ΜΑΘΗΜΑΤΑ ΟΙΚΟΛΟΓΙΑ ΙΙ] – (BIO233, eclass.upatras.gr)