

## COURSE OUTLINE

### (1) GENERAL

<b>SCHOOL</b>	NATURAL SCIENCES		
<b>ACADEMIC UNIT</b>	BIOLOGY		
<b>LEVEL OF STUDIES</b>	UNDERGRADUATE		
<b>COURSE CODE</b>	BIO_HE09	<b>SEMESTER</b>	6/8
<b>COURSE TITLE</b>	VEGETATION ECOLOGY		
<b>INDEPENDENT TEACHING ACTIVITIES</b> <i>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</i>		<b>WEEKLY TEACHING HOURS</b>	<b>CREDITS</b>
Lectures, seminars, and Multimedia displays		2	6
Laboratory work & exercises		3	
Educational field-work		One or 2 daily excursions	
<i>Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).</i>			
<b>COURSE TYPE</b> <i>general background, special background, specialised general knowledge, skills development</i>	Field of Science		
<b>PREREQUISITE COURSES:</b>	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.		
<b>LANGUAGE OF INSTRUCTION and EXAMINATIONS:</b>	Greek. Teaching may be however performed in English in case foreign Erasmus students attend the course.		
<b>IS THE COURSE OFFERED TO ERASMUS STUDENTS</b>	Yes in English e.g. for Erasmus students		
<b>COURSE WEBSITE (URL)</b>	<b>Σφάλμα! Η αναφορά της υπερ-σύνδεσης δεν είναι έγκυρη.</b> <a href="http://eclass.upatras.gr/courses/bio233">eclass.upatras.gr/courses/bio233</a>		

### (2) LEARNING OUTCOMES

<p><b>Learning outcomes</b></p> <p><i>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.</i></p> <p><i>Consult Appendix A</i></p> <ul style="list-style-type: none"> <li>• <i>Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area</i></li> <li>• <i>Descriptors for Levels 6, 7 &amp; 8 of the European Qualifications Framework for Lifelong Learning and Appendix B</i></li> <li>• <i>Guidelines for writing Learning Outcomes</i></li> </ul> <p>By the end of this course the student will be able to:</p>
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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?*

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

Generally, by the end of this course the student will, furthermore, have develop 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*

### (3) SYLLABUS

#### Introduction to Vegetation Ecology

Environmental parameters. Weather and climate. Soil and soil properties. The ecological role of soils.

Plant communities. Habitat types and plant associations. Plant units/ biomes. Global distribution of plant biomes.

Biogeographical regions. Bioclimatic and vegetation belts/zones. Vegetation zones of Greece.

#### 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.

Ago-ecosystems. Structure and function of agro-ecosystems.

Monitoring. Plant species as bio indicators

#### (4) TEACHING and LEARNING METHODS - EVALUATION

<p style="text-align: center;"><b>DELIVERY</b> <i>Face-to-face, Distance learning, etc.</i></p>	Lectures, seminars and laboratory work face to face.	
<p style="text-align: center;"><b>USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY</b> <i>Use of ICT in teaching, laboratory education, communication with students</i></p>	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.	
<p style="text-align: center;"><b>TEACHING METHODS</b> <i>The manner and methods of teaching are described in detail.</i> <i>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.</i></p> <p><i>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</i></p>	<b>Activity</b>	<b>Semester workload</b>
	Lectures (2 conduct hours per week x 13 weeks)	26
	Laboratory exercises/work (3 conduct hours per week x 13 weeks)	39
	Field work	16
	Hours for private study of the student and preparation of home-works)	44
Course total	<b>125</b>	
<p style="text-align: center;"><b>STUDENT PERFORMANCE EVALUATION</b> <i>Description of the evaluation procedure</i></p> <p><i>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</i></p> <p><i>Specifically-defined evaluation criteria are given, and if and where they are accessible to students.</i></p>	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

Ellenberg H. **1988**. *Vegetation Ecology of Central Europe*. 4th Edition, Cambridge University Press

Martin Kent. & P. Coker, **1994**. *Vegetation Description and Analysis. A Practical Approach*. John Wiley & Sons Ltd, 363pp.

Holmes N., Boon P. & Rowell. T, **1999**. *Vegetation communities of British Rivers –a revised*

*classification*. JNCC, 114pp.

Rodwell J. (Editor) **2000**. *British Plant Communities*. Volumes 1-5. Cambridge University Press

Barbour M, Burk J & Pitts W **1980**. *Terrestrial Plant Ecology*. Menlo Park, California.

Dobson M & Frid C **1998**. *Ecology of Aquatic Systems*. Longman Ltd. 215pp.

Moss B **1999**. *Ecology of freshwaters*. Blackwell Science, 6th Edition.

- *Related academic journals:*

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