

## COURSE OUTLINE

### (1) GENERAL

<b>SCHOOL</b>	NATURAL SCIENCES		
<b>ACADEMIC UNIT</b>	BIOLOGY DEPARTMENT		
<b>LEVEL OF STUDIES</b>	UNDERGRADUATE		
<b>COURSE CODE</b>	BIO_EA5	<b>SEMESTER</b>	5/7
<b>COURSE TITLE</b>	EDAPHOLOGY		
<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>	
<i>Lectures, Laboratory Work</i>	2(L)	3	
<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>	<i>Special background, Skills development</i>		
<b>PREREQUISITE COURSES:</b>	No		
<b>LANGUAGE OF INSTRUCTION and EXAMINATIONS:</b>	<i>Greek. Teaching</i>		
<b>IS THE COURSE OFFERED TO ERASMUS STUDENTS</b>	No		
<b>COURSE WEBSITE (URL)</b>	<a href="https://eclass.upatras.gr/courses/BIO353/">https://eclass.upatras.gr/courses/BIO353/</a>		

### (2) LEARNING OUTCOMES

<p><b>Learning outcomes</b> <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>The course provides basic knowledge of soil properties and soil formation. At the end of this course the student will be able:</p> <ul style="list-style-type: none"> <li>To recognize the main characteristics of the soil as well as its ways and methods of classification.</li> <li>Understand the mechanisms of soil formation and soils classification, as well as the factors that influence and control their formation</li> <li>Identify the basic mechanical and geochemical characteristics of the soils.</li> <li>To use and develop techniques and methods of mechanical soil analysis (determination of grain size), determination of water absorption and absorption capacity, determination of pH, conductivity, determination of calcium carbonate content, total organic carbon, total nitrogen and total phosphorus.</li> </ul>

- The students will be introduced and learn the techniques and methods of sampling and description of soils in the field.

**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>

*Search for, analysis and synthesis of data and information with the use of the necessary technology , working independently*

**(3) SYLLABUS**

**Theory**

1. Minerals, rocks and soil
2. Processes on the surface of the earth
3. Weathering and soil formation
4. Soil structure and characteristics
5. Inorganic and Organic Soil Ingredients
6. Physical and Chemical properties of soils
7. Formation and evolution of soils
8. Classification of Soils
9. Soil maps and soil profiles (cross-sections)

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

<p><b>DELIVERY</b> <i>Face-to-face, Distance learning, etc.</i></p>	<p><i>In classroom and in laboratory (face-to-face) and in the field, as well as preparation of field work reports</i></p> <p><i>Laboratory groups of 30-35 students</i></p>													
<p><b>USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY</b> <i>Use of ICT in teaching, laboratory education, communication with students</i></p>	<p><i>Use of Information and Communication Technologies (ICTs) (power point) in teaching</i> <i>Support of Learning Process and Dissemination of educational material through the University of Patras e_class platform.</i></p>													
<p><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>	<table border="1"> <thead> <tr> <th data-bbox="675 600 1002 622"><b>Activity</b></th> <th data-bbox="1010 600 1316 622"><b>Semester workload</b></th> </tr> </thead> <tbody> <tr> <td data-bbox="675 633 1002 678"><i>Lectures (2 conduct hours per week x 13 weeks)</i></td> <td data-bbox="1010 633 1316 678">13*2=26</td> </tr> <tr> <td data-bbox="675 689 1002 712"><i>Individual study</i></td> <td data-bbox="1010 689 1316 712">25</td> </tr> <tr> <td data-bbox="675 723 1002 745"><i>Project preparation</i></td> <td data-bbox="1010 723 1316 745">16</td> </tr> <tr> <td data-bbox="675 757 1002 779"><i>Fieldwork</i></td> <td data-bbox="1010 757 1316 779">12</td> </tr> <tr> <td data-bbox="675 790 1002 813"><b>Course total</b></td> <td data-bbox="1010 790 1316 813"><b>79</b></td> </tr> </tbody> </table>		<b>Activity</b>	<b>Semester workload</b>	<i>Lectures (2 conduct hours per week x 13 weeks)</i>	13*2=26	<i>Individual study</i>	25	<i>Project preparation</i>	16	<i>Fieldwork</i>	12	<b>Course total</b>	<b>79</b>
<b>Activity</b>	<b>Semester workload</b>													
<i>Lectures (2 conduct hours per week x 13 weeks)</i>	13*2=26													
<i>Individual study</i>	25													
<i>Project preparation</i>	16													
<i>Fieldwork</i>	12													
<b>Course total</b>	<b>79</b>													
<p><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>	<p><i>Final Exam, written, of increasing difficulty, which may include Multiple choice test, Questions of brief answer, Questions to develop a topic, Judgment questions and Exercise solving.</i> <i>Marking Scale: 0-10.</i> <i>Minimum Passing Mark: 5.</i></p>													

#### (5) ATTACHED BIBLIOGRAPHY

<p><i>- Suggested bibliography mainly in Greek:</i> Προτεινόμενη Βιβλιογραφία : ΕΔΑΦΟΛΟΓΙΑ, Brady Nyle C., εκδόσεις Έμβρυο, 1004 σελ. Προσφέρεται μέσω ΕΥΔΟΕΟΣ ΕΔΑΦΟΛΟΓΙΑ, Σινάνης Κ., ΤΕΙ ΚΡΗΤΗΣ σελ 174. -Συναφή επιστημονικά περιοδικά: 1. Sediments and Soils 2. Soil Biology and Biochemistry</p>
--