

COURSE OUTLINE

(1) General information

FACULTY/SCHOOL	TECHNOLOGY		
DEPARTMENT	ENVIRONMENTAL SCIENCES		
LEVEL OF STUDY	<i>Undergraduate</i>		
COURSE UNIT CODE	NEW COURSE	SEMESTER	3 th
COURSE TITLE	TERRESTRIAL ECOSYSTEMS		
INDEPENDENT TEACHING ACTIVITIES in case credits are awarded for separate components/parts of the course, e.g. in lectures, laboratory exercises, etc. If credits are awarded for the entire course, give the weekly teaching hours and the total credits		WEEKLY TEACHING HOURS	CREDITS
THEORETICAL BACKGROUND		4	5
COURSE TYPE Background knowledge, Scientific expertise, General Knowledge, Skills Development	BACKGROUND		
PREREQUISITE COURSES:	NO		
LANGUAGE OF INSTRUCTION & EXAMINATION/ASSESSMENT:	GREEK		
THE COURSE IS OFFERED TO ERASMUS STUDENTS	YES		
COURSE WEBSITE (URL)			

(2) LEARNING OUTCOMES

<p>Learning Outcomes The course learning outcomes, specific knowledge, skills and competences of an appropriate (certain) level, which students will acquire upon successful completion of the course, are described in detail. It is necessary to consult:</p> <p>APPENDIX A</p> <ul style="list-style-type: none"> • Description of the level of learning outcomes for each level of study, in accordance with the European Higher Education Qualifications' Framework. • Descriptive indicators for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and <p>APPENDIX B</p> <ul style="list-style-type: none"> • Guidelines for writing Learning Outcomes
<p>The module introduces students to Terrestrial Ecosystems operation, their biodiversity and interactions, and rational management. It includes basic characteristics that describe the abiotic environment of Greece (as an Ecosystem) and their distinction in Mediterranean, Central European and subtropical, depending on the physiognomy and adaptations of vegetation. The mechanisms and adaptations of the Mediterranean ecosystems to the intense environmental stresses (drought, grazing, fires) and the possibilities for recovery, with the scientific methodology and modern means of their management. Elements of the native Greek flora and the causes of the high biodiversity of Greece are also given. Significant reference is made to the Great Plains, but with particular emphasis on the Mediterranean</p>

ecosystems, the conservation and restoration of species and the various types of habitats and networks of protected areas.

Upon successful completion of the course, the student will be able to:

1. Understand the types of terrestrial (forest, meadow, agricultural and wetland ecosystems) and their operation.
2. Know the Great Plagues, the vegetation zones and the most important species of flora of the ecosystems, with emphasis on the Mediterranean ecosystems.
3. Assess the threats and dangers of natural and man-made effects of pollution and natural disasters and to rationally address their consequences, based on their sustainable sustainability.
4. Take actions based on their sustainable development and strategic planning of innovative solutions in the service of sustainable development.
5. Process, design, evaluate and implement the most effective methods of management and rehabilitation of land ecosystems, in each case.

General Competences

Taking into consideration the general competences that students/graduates must acquire (as those are described in the Diploma Supplement and are mentioned below), at which of the following does the course attendance aim?

Search for, analysis and synthesis of data and information by the use of appropriate technologies, Adapting to new situations Decision-making Individual/Independent work Group/Team work Working in an international environment Working in an interdisciplinary environment Introduction of innovative research

Project planning and management Respect for diversity and multiculturalism Environmental awareness Social, professional and ethical responsibility and sensitivity to gender issues Critical thinking Development of free, creative and inductive thinking (Other.....citizenship, spiritual freedom, social awareness, altruism etc.)

- Search, analyze and synthesize data and information, using the necessary technologies
- Decision making
- Autonomous work
- Teamwork
- Production of new research ideas
- Project design and management
- Respect for the natural environment
- Promoting free, creative and inductive thinking

(3) COURSE CONTENT

Theory:

1. Introduction - General concepts. Biocommunications - Ecosystems. Analysis of the characteristics of terrestrial Ecosystems.
2. Populations, interactions between populations - adaptive strategies.
3. Variety of the terrestrial flora of Greece - Phytogeographical location and phytogeographical compartments of Greece. Description of plant formations.

<p>4. Forest Ecosystems, meadows and agroforestry, wetlands, Coastal ecosystems.</p> <p>5. Plant magnifications. Plant chorology.</p> <p>6. National Parks - Protected natural areas, internationally and regionally. Urban and suburban natural environment. Green open recreation areas.</p> <p>7. Anthropogenic effects on flora composition. Threats and risks of degrading Ecosystems. Endemicity - Preservation of Biodiversity.</p> <p>8. Sustainable management of forest species and ecosystems, protection of rare endemic species (flora and fauna).</p> <p>9. Wetlands - Threats and dangers of anthropogenic interventions.</p> <p>10. Fires in Mediterranean ecosystems. Adaptive mechanisms of plants in dealing with threats (drought, grazing, fires).</p> <p>11. Tourism (Alternative forms of tourism) and Natural environment - Impacts</p> <p>12. Sources of pollution and modern environmental problems. - Ways of treatment.</p> <p>13. Threats - risks of terrestrial ecosystems from natural causes. Methods and techniques of restoration of disturbed ecosystems. Applications in practice.</p>

(4) TEACHING METHODS-ASSESSMENT

<p>MODES OF DELIVERY Face-to-face, in-class lecturing, distance teaching and distance learning etc.</p>	<ul style="list-style-type: none"> • Lectures in the classroom or by distance • Team discussion 											
<p>USE OF INFORMATION AND COMMUNICATION TECHNOLOGY Use of ICT in teaching, Laboratory Education, Communication with students</p>	<ul style="list-style-type: none"> • Powerpoint. • View video material • e-mail. • e-class 											
<p>COURSE DESIGN Description of teaching techniques, practices and methods: Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, Internship, Art Workshop, Interactive teaching, Educational visits, projects, Essay writing, Artistic creativity, etc.</p> <p>The study hours for each learning activity as well as the hours of self-directed study are given following the principles of the ECTS.</p>	<table border="1"> <thead> <tr> <th><i>Activity/Method</i></th> <th><i>Semester workload</i></th> </tr> </thead> <tbody> <tr> <td>Lectures</td> <td>52</td> </tr> <tr> <td>Theory study</td> <td>48</td> </tr> <tr> <td>Team working</td> <td>25</td> </tr> <tr> <td>Course total (25 hours of workload per credit unit)</td> <td>125</td> </tr> </tbody> </table>		<i>Activity/Method</i>	<i>Semester workload</i>	Lectures	52	Theory study	48	Team working	25	Course total (25 hours of workload per credit unit)	125
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<p>STUDENT PERFORMANCE EVALUATION/ASSESSMENT METHODS Detailed description of the evaluation procedures: Language of evaluation, assessment methods, formative or summative (conclusive), multiple choice tests, short- answer questions, open-ended questions, problem solving, written work, essay/report, oral exam, presentation, laboratory work, other.....etc.</p>	<p><u>Students are assessed in Greek. The final grade is formed by tests which include:</u></p> <ul style="list-style-type: none"> • Written exam: 80% of the final grade (A) • Tasks: 20% of the final grade (B) <p>Final grade = 80% (A) + 20% (B)</p>											

Specifically, defined evaluation criteria are stated, as well as if and where they are accessible by the students.	
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(5) SUGGESTED BIBLIOGRAPHY:

Suggested bibliography

1. Korfiatis K. & Paraskevopoulos S., 2010. (In Greek) General Principles in Ecology and Greek Natural Ecosystems, Disigma Publications, Eudoxus Publications: 7711856
2. Paraskevopoulos S., 2019. (In Greek) Introduction to Ecology and Environmental Sciences Disigma Publications.
2. Veresoglou D., 2010 (3rd Ed. In Greek), Ecology, ISBN: 978-960-7013-36-1, Gartaganis Publications, Eudoxus Code: 2671
3. Chatzibiros K., 2014 (3rd ed. In Greek), Ecology, Ecosystems and Protection of the Environment, . ISBN: 978-960-266-121-5. Symmetria Publications, Eudoxus Code: 41959128
4. Foitos D. & Kamari G., 2009. (1st Ed. In Greek), Agri-botanology lessons. ISBN: 978-960-530-099-9. Patras University Publications, Eudoxus Code: 3215.
5. Stuart F. , Chapin, III Pamela A. Matson, & Peter M. Vitousek. 2018. (In Greek) Principles of terrestrial ecosystem ecology. 2nd Ed., Patisianos Publications SA

Related Scientific Journals: Ecosystems, Journal of Ecosystems, International Journal of Ecosystem, International Journal of Biodiversity Science, Ecosystem Services & Management, Journal of Ecosystems and Management, Agriculture, Ecosystems & Environment.