

## COURSE OUTLINE

### 1. GENERAL INFORMATION

<b>FACULTY/SCHOOL</b>	School of Plant Sciences		
<b>DEPARTMENT</b>	Department of Crop Science		
<b>LEVEL OF STUDY</b>	Postgraduate		
<b>COURSE UNIT CODE</b>	120118	<b>Semester:</b>	S-2
<b>COURSE TITLE</b>	Landscape Restoration and Ecological Design		
<b>INDEPENDENT TEACHING ACTIVITIES</b> <i>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</i>	<b>WEEKLY TEACHING HOURS</b>	<b>ECTS</b>	
Lectures and Design Tutorials	3	4	
<i>Add rows if necessary. The organization of teaching and the teaching methods used are described in detail under section 4</i>			
<b>COURSE TYPE</b> <i>Background knowledge, Scientific expertise, General Knowledge, Skills Development</i>	Scientific expertise		
<b>PREREQUISITE COURSES:</b>			
<b>LANGUAGE OF INSTRUCTION:</b>	Greek		
<b>THE COURSE IS OFFERED TO ERASMUS STUDENTS</b>	No		
<b>COURSE WEBSITE (URL)</b>			

### 2. LEARNING OUTCOMES

<p><b>Learning Outcomes</b> 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><b>APPENDIX A</b></p> <ul style="list-style-type: none"> <li>• Description of the level of learning outcomes for each level of study, in accordance with the European Higher Education Qualifications' Framework.</li> <li>• Descriptive indicators for Levels 6, 7 &amp; 8 of the European Qualifications Framework for Lifelong Learning and</li> </ul> <p><b>APPENDIX B</b></p> <ul style="list-style-type: none"> <li>• Guidelines for writing Learning Outcomes</li> </ul>
<p>Upon completion of the course, students will acquire specific knowledge in the design of restoration, regeneration, and adaptation of environmentally degraded areas according to the principles of Landscape Architecture. Specifically, students will be able to:</p> <ul style="list-style-type: none"> <li>• identify the basic concepts of restoration,</li> <li>• better understand the methods of restoring disturbed ecosystems,</li> <li>• distinguish the basic design steps required to restore a disturbed landscape (quarry, burnt area, eroded streams, etc.),</li> <li>• organize and design a vulnerable landscape according to new design and technological trends,</li> </ul>

- propose appropriate bioengineering methods according to the specific issues,
- acquire skills to holistically address a disturbed landscape.

### 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?*

<i>Search for, analysis and synthesis of data and information by the use of appropriate technologies,</i>	<i>Project planning and management</i>
<i>Adapting to new situations</i>	<i>Respect for diversity and multiculturalism</i>
<i>Decision-making</i>	<i>Environmental awareness</i>
<i>Individual/Independent work</i>	<i>Social, professional and ethical responsibility and sensitivity to gender issues</i>
<i>Group/Team work</i>	<i>Critical thinking</i>
<i>Working in an international environment</i>	<i>Development of free, creative and inductive thinking</i>
<i>Working in an interdisciplinary environment</i>	<i>.....</i>
<i>Introduction of innovative research</i>	<i>(Other.....citizenship, spiritual freedom, social awareness, altruism etc.)</i>
	<i>.....</i>

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 interdisciplinary environment  
 Introduction of innovative research  
 Project planning and management  
 Respect for diversity and multiculturalism  
 Environmental awareness  
 Critical thinking  
 Development of free, creative and inductive thinking

### 3. COURSE CONTENT

Designing the restoration, regeneration, and adaptation of environmentally degraded areas according to the principles of Landscape Architecture. The main forms and characteristics of environmentally degraded areas are discussed (quarries, landfills, fire-affected areas, roadside and waterfront landscapes, industrial areas, archaeological sites, etc.). Methodologies for restoration are developed for each case, highlighting their advantages and disadvantages. Plant-mechanical methodologies are presented, and cases of their application are analyzed.

### 4. TEACHING METHODS--ASSESSMENT

<b>MODES OF DELIVERY</b> <i>Face-to-face, in-class lecturing, distance teaching and distance learning etc.</i>	The teaching of the coursetakes place in-person, in a well-equipped classroom/studio, complete with the necessary audiovisual equipment for conducting lectures and presentations, as well as drafting tables and computers. These computers have suitable design software installed to assist in teaching the course. Additionally, teaching can also be conducted remotely through video conferencing.
<b>USE OF INFORMATION AND COMMUNICATION TECHNOLOGY</b> <i>Use of ICT in teaching, Laboratory Education, Communication with students</i>	Slide Presentations in PowerPoint format are used for teaching purposes. Video projection. Use of appropriate design software (such as AutoCAD, 3D Studio Max, Google SketchUp, Rhinoceros 3D, etc.). Use of suitable image editing and presentation creation software (such as Adobe Photoshop, CorelDRAW, etc.). Communication with students is facilitated through email. The learning process is supported through the digital platform Microsoft Teams. Access to online databases is provided for research purposes.

<p><b>COURSE DESIGN</b></p> <p><i>Description of teaching techniques, practices and methods:</i>  <i>Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, Internship, Art Workshop, Interactive teaching, Educational visits, projects, Essay writing, Artistic creativity, etc.</i></p> <p><i>The study hours for each learning activity as well as the hours of self-directed study are given following the principles of the ECTS.</i></p>	<p><b>Activity/ Method</b></p>	<p><b>Semester workload</b></p>
	6 Lectures	18 hours
	Field Exercises	5 hours
	Completion of individual assignments at home- Individual design	22 hours
	Tutorials of design assignments	9 hours
	Case study research	6 hours
	Individual study	40 hours
	<b>Total of Course (25 hours of workload per ECTS)</b>	<b>100 hours</b>
<p><b>STUDENT PERFORMANCE EVALUATION/ASSESSMENT METHODS</b></p> <p><i>Detailed description of the evaluation procedures:</i></p> <p><i>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.</i></p> <p><i>Specifically defined evaluation criteria are stated, as well as if and where they are accessible by the students.</i></p>	<p>The evaluation language is Greek (and English if required). The assessment is done literature reviews and the creation of studies for the restoration of degraded landscapes. The grade is derived from the submission of designs and supplementary tasks related to home-based work in combination with significant completion within the classroom (studio), under the direct supervision and guidance of the instructors. The evaluation criteria focus on accuracy, clarity, and aesthetic presentation of the work.</p>	

## 5. SUGGESTED BIBLIOGRAPHY:

- Suggested Bibliography:

Gkoltsiou A., Paraskevopoulou A., 2021. Towards an energy alternative solution through opencast lignite mine reclamation. Acta Horticulture.

Μερτζάνης et al. (2004) 'Διαχρονική εξέλιξη της κατάστασης περιβάλλοντος (Γεωλογία - Γεωμορφές) και των χρήσεων γης σε αργούντα λατομεία του Πεντελικού Όρους (ΑΤΤΙΚΗ)', 10ο Διεθνές Συνέδριο της Ελληνικής Γεωλογικής Εταιρείας: Εφαρμοσμένη Γεωφυσική. Θεσσαλονίκη 14-20 Απριλίου, pp. 216–225.

Χατζηστάθης, Αθ., Ισπικούδης, Ι., Προστασία της φύσης και αρχιτεκτονική τοπίου, Εκδόσεις Γιαχούδη –Γιαπούλη Ο.Ε., Θεσσαλονίκη, 1995

Zhu Donh-dong, Song Yu-shan, Li Le, Study on sustainable landscape design of abandoned quarries, An Example: Zhushan ecological park in Xuzhou, China, The 6th International conference on Mining Science and Technology, Procedia Earth and Planetary Science 1 (2009) , Science Direct

A.S.L.A., 1978 Creating Land for Tomorrow, Landscape Architecture Technical Information Series, Vol 1, No 3, Wasinghton D.C.

Box, T. W. (1978). «The significance and responsibility of rehabilitating drastically disturbed land.» In F. W. Schaller & P. Sutton, Reclamation of Drastically Disturbed Lands (pp. 1-10) Madison: American Society of Agronomy.

Ewel, J. J. 1987. «Restoration is the ultimate test of ecological theory.» Pages 31–34 in W. R. Jordan, M. E. Giplin, and J. D. Aber, editors. Restoration ecology: a synthetic approach to ecological research. Cambridge University Press, Cambridge, United Kingdom.

Γαλατσιάνου Αναστασία(2017). «Σταθεροποίηση πρυνών δασικής οδοποιίας με μεθόδους βιολογικής Μηχανικής» Μεταπτυχιακή Διατριβή, Αριστοτέλειο Πανεπιστήμιο Θεσσαλονίκης, Τμήμα Δασολογίας Και Φυσικού Περιβάλλοντος

Μπρόφας Γ. (1987). «Έρευνα για την αποκατάσταση του τοπίου στο λατομικό χώρο Πεντέλης.» Δασική έρευνα, 149-186.

Μπρόφας Γ. (1989) «Οικολογικές και οπτικές επιπτώσεις στο τοπίο από τη Μεταλλευτική και λατομική εκμετάλλευση. Πρακτικά Συνεδρίου “Προστασία του περιβάλλοντος στην Μεταλλευτική, στη Μεταλλουργία και στην τεχνολογία υλικών». ΕΜΠ Τμήμα Μηχανικών Μεταλλείων – Μεταλλουργών, Αθήνα 13-15 Δεκεμβρίου 1989.

Κασσιός Κ. (2014) «Μέρος Β. Κεφ.1 Απόψεις για την προστασία και αποκατάσταση δασικών οικοσυστημάτων και του τοπίου από τις εξορυκτικές δραστηριότητες» Εγχειρίδιο Εφαρμογής Μέθοδοι και σχεδιασμός αποκατάστασης των δασικών οικοσυστημάτων και του τοπίου μετά από φυσικές καταστροφές ή άλλες επεμβάσεις. Ίδρυμα Σταύρος Νιάρχος.

Χατζηστάθης Αθ. και Ντάφης Σπ. (1989) «Αναδασώσεις, Δασικά Φυτώρια». Εκδόσεις Γιαχούδη – Γιαπούλη Ο.Ε. Θεσσαλονίκη

*- Related Scientific Journals:*

- Landscape (Landscape Institute, UK)
- Landscape Architecture Magazine (ASLA)
- Topos Magazine,
- Garten + Landschaft
- Journal of LandscapeArchitecture (JoLA)
- Landezine (Landscape Architecture Platform)