COURSE OUTLINE

(1) GENERAL

SCHOOL	School of Environment		
ACADEMIC UNIT	Department of Environment		
LEVEL OF STUDIES	Undergraduate		
COURSE CODE	**129KEY**	**SEMESTER**	**6**
COURSE TITLE	Soil Science		

INDEPENDENT TEACHING ACTIVITIES	**WEEKLY TEACHING HOURS**	**CREDITS**
Lectures	3	
Laboratory/Tutorials	4	
Total credits		**7**

COURSE TYPE	Skills dvelopment
PREREQUISITE COURSES:	Introduction to Ecology, Biology, Geology, Plant biology
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek
IS THE COURSE OFFERED TO ERASMUS STUDENTS	Yes
COURSE WEBSITE (URL)	http://www.env.aegean.gr/studies/undergraduate-degree/curriculum/soil-science/

(2) LEARNING OUTCOMES

Learning outcomes

Learning outcomes related to students' knowledge, application and abilities.

- Define the functions of soils in different ecosystems and describe its role for the management of crucial environmental problems.
- Analyse soil samples and evaluate soil properties that affect ecosystems function.
- Compare soil of different land uses and propose management practices for degraded soils

General Competences

- Search for, analysis and synthesis of data and information, with the use of the necessary technology
- Decision-making
- Team work
- Project planning and management
- Respect for the natural environment
- Production of free, creative and inductive thinking

(3) SYLLABUS

1. Introduction to soil science
2. Soil horizons
3. Soil water and air
4. Soil texture
5. Soil structure
6. Soil acidity and alkalinity
7. Soil organic matter
8. Soil fertility I
9. Soil fertility II
10. Formation of soils from parent materials I
11. Formation of soils from parent materials II
12. Soil degradation
13. Soil management

Laboratory exercises:

1. Visit to different ecosystems – soil sampling
2. Soil samples preparation to soil analysis
3. Soil categorisation according to the architecture
4. Calculation soil pH
5. Evaluation of soil organic matter
6. Evaluation of Ca
7. Evaluation of total Nitrogen
8. Evaluation of P
9. Field visit for soil profile observation
10. Presentation and discussion of analysis results

(4) TEACHING and LEARNING METHODS - EVALUATION

DELIVERY.	Face-to-face
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY	**Power point, internet, videos**
TEACHING METHODS	

Activity	*Semester workload*
Lectures	39
Fieldwork	8
Laboratory practice	32
Essay writing	30
Study and analysis of bibliography	70
Course total	***179***

STUDENT PERFORMANCE EVALUATION	Language of evaluation: Greek Methods of evaluations: Multiple choice questionnaires 15% Short-answer questions 15% Open-ended questions 20% Written work 30% Laboratory work 20%

(5) ATTACHED BIBLIOGRAPHY

- *Suggested bibliography:*
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Brady N.C. and Weil R.R 2011. The Nature and properties of soil. (14th edition) . EMBRYO and Pearson ed. p. 1000

Alifragkis, D.2010, Soil samplinf and Lab analysis of forest soils and plant tissue, Aivazis, C. N. Thessaloniki ISBN. 978-960-98630-5-6

Alifragkis, D. 2008. Soil I Soil formation, properties, classification. Aivazis, C.N. Thessaloniki

Paschalidis C. 2005. Soil lab analysis, EMBRYO - Vasileiadis S. Athens

- Related academic journals:

Soil science
European journal of soil science
Applied and environmental soil science
Land degradation and development
Pedosphere