COURSE DESCRIPTION

1. GENERAL

SCHOOL	ENVIRONMENT, GEOGRAPHY AND APPLIED ECONOMICS		
DEPARTMENT	GEOGRAPHY		
LEVEL OF COURSE	UNDERGRADUATE		
COURSE CODE	GE0302	**SEMESTER**	2nd
COURSE TITLE	Environmental Geography		

STRUCTURE OF TEACHING ACTIVITIES	**TEACHING HOURS PER WEEK**	**NUMBER OF CREDITS ALLOCATED (ECTS)**
Lectures and Laboratory Classes	3	5

TYPE OF COURSE	BACKGROUND KNOWLDEGE, General knowledge, Scientific field, Skill development
PREREQUISITES	-
LANGUAGE OF INSTRUCTION	Greek
COURSE OFFERED TO ERASMUS STUDENTS	In English (Upon request only)
(URL)	

2. EXPECTED LEARNING OUTCOMES

Learning outcomes

Describe the objectives of the course as well as the expected learning outcomes

This course reflects the part of the field of Physical Geography which deals with Biosphere, in particular the structures and physical processes that shape the living matter. The course allows the students to develop a knowledge base related to biosphere, the basic theoretical principles of ecology, the natural processes and functions that occur among the living organisms, but also between living organisms and the abiotic environment, shaping current land- and seascapes and the natural environment.

Core principles of ecology, physical geography and landscape ecology will be the core of this course. Through course practicals and experimental work, students will become familiar with the basic knowledge and skills to familiarize themselves with the field of biotic physical geography.

In that context and after the completion of this course, students will be able to:

1. **Explain** the basic principles of ecology,
2. **Differentiate** among the basic biosphere structures,
3. **Discern and explain** the main natural processes that occur among living organisms, but also between living organisms and the abiotic environment,
4. **Explain** the basic organization of the landscape elements, as well as the notions of spatial connectivity and fragmentation,
5. **Explain** the processes through which the biotic interactions and the biotic-abiotic interactions shape landscape functions,
6. **Apply** simple methods of observing physical process and functions on the field,
7. **Apply** methods of observation and quantification of landscape patterns in a set of selected areas.

General skills
Adaptation in new conditions Decision making Autonomous work Respecting natural environment Self-criticism and peer review Respect in multi-cultural setup and in one's difference Promotion of free, creative and inductive thinking

3. COURSE CONTENTS

Theory:

1. Ecology and the environment as fields of physical geography
2. Biosphere: definition and basic elements
3. Ecosystem types and their classifications: examples from Greece
4. Biological characteristics of the oceans
5. Interactions between biosphere, atmosphere, lithosphere and hydrosphere
6. Interactions among biological structures
7. Basic ecological processes and functions (e.g., productivity, carbon sequestration)
8. Population dynamics
9. Patterns of species and habitats distribution in space
10. Time and the notion of ecological succession
11. Landscape ecology (landscape patterns in space and time and the notion of scale)

Practicals:

1. Basic biosphere elements
2. Habitat type map reading in different scales
3. Population dynamics exercises
4. Predator-prey models
5. Field measurement of biomass estimates and vegetation productivity
6. Soil stored carbon estimates
7. Estimation of landscape patterns through vegetation maps
8. Change of landscape patterns in space
9. Methods of landscape pattern quantification

4. TEACHING AND ASSESSMENT METHODS

TYPE OF LECTURES	Face to face • In class • In the lab • On the field
ICT USE	Use of pc lab and a selection of open access software for teaching. Use of eclass platform for teaching and communicating with the students.
TEACHING STRUCTURE	

Activity	*Hours per semester*
Lectures	18
Laboratory and field work	12
Weekly assignments	24
Studying – personal work	67

	Seminars	6
	TOTAL	***127***
ASSESSMENT METHODS	Assessment language: Greek Assessment methods 1. Written exam on the theory and practicals of the course (100%) which contains: • Open questions (60%) • Multiple choice questions (40%) 2. Submission of weekly exercises (prerequisite for participation in the exam course) Assessment criteria are announced at the beginning of each semester to the class.	

5. RECOMMENDED READING

Forman, R. T. T. 1995. Land Mosaics: The Ecology of Landscapes and Regions. Cambridge University Press, Cambridge.

Turner, M. G. and R. H. Gardner (eds). 1991. Quantitative Methods in Landscape Ecology. Springer-Verlag, New York.

www.iale.org