COURSE OUTLINE

(1) GENERAL

SCHOOL	School of Environment		
ACADEMIC UNIT	Department of Environment		
LEVEL OF STUDIES	Undergraduate		
COURSE CODE	**336KEY**	**SEMESTER**	**6**
COURSE TITLE	Environmental Applications of GIS		

INDEPENDENT TEACHING ACTIVITIES	**WEEKLY TEACHING HOURS**	**CREDITS**
Theory	1	
Laboratory	2	
Total credits		**6**

COURSE TYPE	Skills development
PREREQUISITE COURSES:	Introduction to Cartography and GIS
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek
IS THE COURSE OFFERED TO ERASMUS STUDENTS	No
COURSE WEBSITE (URL)	http://www.env.aegean.gr/studies/undergraduate-degree/curriculum/environmental-applications-of-g-i-s/

(2) LEARNING OUTCOMES

Learning outcomes
The undergraduate students will learn how to: • Use geographic data in order to estimate the geographic position • Use informational data that are registered at the proper geographical position • Use GIS tools to develop spatial models that use geographic and information data in environmental applications
General Competences
Search for, analysis and synthesis of data and information, with the use of the necessary technology Working independently Team work

(3) SYLLABUS

The lesson focuses on the environmental application of Geographic Information Systems (GIS). At the first weeks the undergraduate students learn the basic principles of digital cartography. Later, the students are taught spatial analysis techniques of either vector or raster data. At the final weeks each student works on an individual or team project of an environmental application of GIS.

The lesson's content for each week is described as followed:

1. Introduction to Geographic Information Systems
2. Geographical Data Structures and Models
3. Georegistration, Digitization and Geodata Base
4. Georegistration, Digitization and Geodata Base (continued)
5. Georegistration, Digitization and Geodata Base (continued)
6. Spatial Analysis of Vector Data
7. Spatial Analysis of Vector Data (continued)
8. Spatial Analysis of Vector Data (continued)
9. Spatial Analysis of Raster Data
10. Spatial Analysis of Raster Data (continued)
11. Spatial Analysis of Raster Data (continued)
12. Environmental Application of GIS
13. Environmental Application of GIS (continued)

(4) TEACHING and LEARNING METHODS - EVALUATION

DELIVERY	Face-to-face
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY	Use of ICT in teaching
TEACHING METHODS	

Activity	*Semester workload*
Lectures	39
Study and Analysis of Bibliography	25
Laboratory Exercises	40
Final Project	50
Course Total	***154***

STUDENT PERFORMANCE EVALUATION	Language of Evaluation: Greek Methods of Evaluation: A) Laboratory Exercises 40% B) Final Project 60%

(5) ATTACHED BIBLIOGRAPHY

- Suggested bibliography:

Κουτσόπουλος Κ., (2002), «Γεωγραφικά Συστήματα Πληροφοριών και Ανάλυση Χώρου», Εκδόσεις Παπασωτηρίου, σελ. 400

Χατζόπουλος, Ι. Ν., (2012), Γεωχωροπληροφορική Τοπογραφία, Εκδόσεις ΤΖΙΟΛΑ, Θεσ/νίκη, 950 σελ

Goodchild M. F., B. O. Parks, L. T. Steyaert, (1993), «Environmental Modeling with GIS», Oxford University Press, p.488