

## COURSE OUTLINE

### (1) General

School:	Social Sciences		
Academic Unit:	Geography		
Level of studies	Undergraduate		
Course Code:	GEO 200	Semester:	C
Course Title:	Introduction to GIS		
Independent Teaching Activities	Weekly Teaching Hours	Credits	
Lecture	2		
Laboratory practice	2		
	<i>Course total</i>	5	
Course Type:	Required		
Prerequisite Courses:	Introduction to Informatics, Introduction to Cartography		
Language of Instruction and Examinations	Greek		
Is the course offered to Erasmus students:	No		
Course Website (Url):	<a href="https://geography.aegean.gr/pps/index_en.php?content=0&amp;lesson=200">https://geography.aegean.gr/pps/index_en.php?content=0&amp;lesson=200</a>		

### (2) Learning Outcomes

#### *Learning Outcomes*

The main aim of this course is to introduce students to basic concepts of GIS and their utility to geographical studies.

The successful completion of the course will allow the students to:

- Gain an understanding on basic issues in GIS
- Acquire expertise in the use of open source GIS software.
- Take the right decisions regarding the management and analysis of spatial data

#### *General Competences*

1. Search for, analysis and synthesis of data and information, with the use of the necessary technology
2. Working independently
3. Project planning and management
4. Production of free, creative and inductive thinking

### (3) Syllabus

This course has two main sections:

1. Data Input and Management
2. Data Analysis

The first section includes basic GIS concepts regarding the type of data used, data input, data editing, data conversions (Vector to Raster and Raster to Vector), data filtering using logical queries, data coding, coordinates transformation and projection systems.

In the second section students become familiar with data analysis and how can they use a GIS to deal with real world problems. Specifically a land suitability analysis is carried out based on Boolean overlay techniques (such as buffer, clip, union) and map algebra. Working with 2.5D surface data (spatial interpolation) and learning the basics of GPS technology are also part of the course.

### (4) Teaching and Learning Methods - Evaluation

<b>Delivery:</b>	face-to-face	
<b>Use of Information and Communication Technology:</b>	Use of PC and suitable software (QGIS) for the exercises.	
<b>Teaching Methods:</b>	<b>Activity</b>	<b>Semester workload</b>
	Lecture	26
	Laboratory practice	26
	Project	26
	Non-supervised study	52
	Performance evaluation/Exams	2
	<i>Course total</i>	132
<b>Student Performance Evaluation</b>	Normal exam period: 50% written exams (theory) και 50% computer based exercises. Resits: 100% written exams	

### (5) Attached Bibliography

1. Hatzopoulos, 2011. Geospatial Informatics and Topography, Tziola and Sons Publishers, Athens (in greek)
2. Koutsopoulos K., 2002. Geographical Informations Systems and Spatial Analysis, Papatotiriou Publishers, Athens (in greek).
3. Longley P., Goodchild M., Maguire D. and Rhind D., 2006, Geographic Information Systems and Science, (greek translation). Kleidarithmos Publishers

4. Lo C. P. and Yeung A.K.W. 2005. Concepts and Techniques of Geographic Information Systems. Prentice Hall.