COURSE OUTLINE

(1) General

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

(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 main aim of the course is to familiarise students with basic spatial data analysis.

The first section revises 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

Delivery:	face-to-face	
Use of Information and Communication Technology:	Use of PC and suitable software (QGIS) for the exersises.	
Teaching Methods:	**Activity**	**Semester workload**
Lecture	26	
Laboratory practice	26	
Project	52	
Non-supervised study	26	
Performance evaluation/Exams	2	
	Course total<	132
Student Performance Evaluation	Normal exam period (February): 70% written exams, and 30% two (2) nonelective computer based exersises. ---------- Resits (June/September): : 100% written exams (or 70% in case the students lost more than two (2) computer labs.). ---------- Computer practicals are required. Only two (2) justified absences are allowed. ---------- Evaluation rules apply to all students without exemptions.	

(5) Attached Bibliography

1. Hatzopoulos, 2012. Geospatial Informatics and Topography, Tziola and Sons Publishers,Athens (in greek)
2. Koutsopoulos K., 2017. Geographical Informations Systems and Spatial Analysis, Disigma Publishers, 2nd Edition, 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.
5. Κάβουρας, Μ., Δάρρα, Α., Κονταξάκη, Σ., Τομαή, Ε., 2016. *Επιστήμη Γεωγραφικής Πληροφορίας - Αρχές και Τεχνολογίες*. [ηλεκτρ. βιβλ.] Αθήνα:Σύνδεσμος Ελληνικών Ακαδημαϊκών Βιβλιοθηκών. Διαθέσιμο στο: http://hdl.handle.net/11419/6392
6. Χαλκιάς, Χ., Γκούσια, Μ., 2015. *Γεωγραφική ανάλυση με την αξιοποίηση της γεωπληροφορικής*. [ηλεκτρ. βιβλ.] Αθήνα:Σύνδεσμος Ελληνικών Ακαδημαϊκών Βιβλιοθηκών. Διαθέσιμο στο: http://hdl.handle.net/11419/4546
7. Τσούλος, Λ., Σκοπελίτη, Α., Στάμου, Λ. 2015. *Χαρτογραφική σύνθεση και απόδοση σε ψηφιακό περιβάλλον*. [ηλεκτρ. βιβλ.] Αθήνα:Σύνδεσμος Ελληνικών Ακαδημαϊκών Βιβλιοθηκών. Διαθέσιμο στο: http://hdl.handle.net/11419/2506