

COURSE OUTLINE

(1) General

School:	Social Sciences		
Academic Unit:	Geography		
Level of studies	Undergraduate		
Course Code:	GEO 343	Semester:	D
Course Title:	GIS Applications		
Independent Teaching Activities	Weekly Teaching Hours	Credits	
Lecture		2	
Laboratory practice		2	
		Course total	5
Course Type:	Required Elective		
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=343		

(2) Learning Outcomes

Learning Outcomes

The emphasis of the course is on issues related to spatial data analysis applied to real world problems. The successful completion of the course will allow the students to:

Gain in depth understanding of theoretical issues in GIS related to decision support.

Acquire expertise in the use of various open source GIS software.

Take the right decisions regarding the path of analysis for various spatial issues

General Competences

1. Search for, analysis and synthesis of data and information, with the use of the necessary technology
2. Decision-making
3. Working independently
4. Project planning and management
5. Criticism and self-criticism
6. Production of free, creative and inductive thinking

(3) Syllabus

In this course students complement their knowledge in GIS by working on a series of issues related with real world problems applying GIS techniques. Main topics covered in this course include: Spatial Interpolation and their applications, 2.5-D Data Analysis, Methods of Multi-criteria Analysis and modeling with GIS.

(4) Teaching and Learning Methods - Evaluation

Delivery:	face-to-face	
Use of Information and Communication Technology:	Use of PC and suitable software (GRASS GIS, R, QGIS) for the exercises.	
Teaching Methods:	Activity	Semester workload
	Lecture	26
	Laboratory practice	26
	Project	52
	Non-supervised study	30
	Performance evaluation/Exams	2

Course total<

136

Student Performance Evaluation

Normal exam period: 80% Assignments, 20% PC based exams.
Resits: 100% written exams

(5) Attached Bibliography

1. Course notes
2. Koutsopoulos K., 2017. Geographical Informations Systems and Spatial Analysis, Disigma Publishers, 2nd Edition, Athens (in greek)
3. Doumpas M. and Zoupounides K., 2001. Multi-criteria classification techniques : Theory and Applications. Kleidarithmos Publishers. Athens (in greek).
4. Malczewski Jacek, 1999, GIS and Multicriteria Decision Analysis. Wiley pub., 392p.
5. Longley P., Goodchild M., Maguire D. and Rhind D. (eds). 1999. Geographical Information Systems: Management Issues and Applications, Vol 2, 2nd Edition, Wiley pub., 431 p
6. Longley P., Goodchild M., Maguire D. and Rhind D., 2006, Geographic Information Systems and Science, (ελληνική μετάφραση). Εκδόσεις κλειδάριθμος.
7. Burrough P.A., and R.A. McDonnell, 1998, Principles of Geographical Information Systems, Oxford University Press.
8. Demers, M.N, 2000, Fundamentals of Geographical Information Systems, Oxford University Press.
9. Graeme Bonham-Carter, 1994, Geographic Information Systems for Geoscientists: Modelling with GIS, Elsevier.
10. 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>
11. Κάβουρας, Μ., Δάρρα, Α., Κόκλα, Μ., Κονταξάκη, Σ., Πανόπουλος, Γ., Τομαή, Ε., 2016. Επιστήμη Γεωγραφικής Πληροφορίας - Ολοκληρωμένη Προσέγγιση και Ειδικά Θέματα. [ηλεκτρ. βιβλ.] Αθήνα:Σύνδεσμος Ελληνικών Ακαδημαϊκών Βιβλιοθηκών. Διαθέσιμο στο: <http://hdl.handle.net/11419/6381>
12. Νικολακόπουλος, Κ., Κατσάνου, Κ., Λαμπράκης, Ν., 2015. Υδρολογία με χρήση γεωγραφικών συστημάτων πληροφοριών και δεδομένων τηλεπισκόπησης. [ηλεκτρ. βιβλ.] Αθήνα:Σύνδεσμος Ελληνικών Ακαδημαϊκών Βιβλιοθηκών. Διαθέσιμο στο: <http://hdl.handle.net/11419/2520>