

COURSE DISCRIPTION

1. GENERAL

SCHOOL	ENVIRONMENT, GEOGRAPHY AND APPLIED ECONOMICS		
DEPARTMENT	GEOGRAPHY		
LEVEL OF COURSE	Postgraduate		
COURSE CODE		SEMESTER	1st
COURSE TITLE	RESEARCH IN GEOINFORMATICS		
STRUCTURE OF TEACHING ACTIVITIES		TEACHING HOURS PER WEEK	NUMBER OF CREDITS ALLOCATED (ECTS)
Lectures		2	7,5
TYPE OF COURSE	Compulsory		
PREREQUISITES	-		
LANGUAGE OF INSTRUCTION	GREEK		
COURSE OFFERED TO ERASMUS STUDENTS	YES (in English if required)		
(URL)			

2. EXPECTED LEARNING OUTCOMES

<p>Learning outcomes <i>Describe the objectives of the course as well as the expected learning outcomes</i></p>
<p>This course is a seminar in nature and aimed at presentation of advanced research topics related to the subject of Geoinformatics and not taught as independent courses in the graduate program. In this course both faculty members and external lecturers present modern research issues in the area of geographical data analysis with the use of Geoinformatics. Apart from the purely educational nature, the seminar aims additionally to support students in the choice of subject to be drawn up in the 3rd semester of study.</p>

3. COURSE CONTENTS

<p>Course content: - Expert Systems and Classification of Remotely Sensed Images - Advanced Systems of Geo location - Spatial Databases of Moving Objects and Trajectories' Management - Spatial Hydrologic Models - Open Source GIS and Cartography Software - The Geographical Weighted Regression statistical analysis of geographical phenomena - Semantics / Ontologies of Geographical Data - Artificial Neural Networks and applications in Geoinformatics - Cellular Automata in Geography - GIS applications in spatial planning - GIS and Health Geography / Spatial Epidemiology - Landscape analysis/ taxonomy with the use of Geoinformatics.</p>
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4. TEACHING AND ASSESSMENT METHODS

TYPE OF LECTURES	In class lectures, small projects	
ICT USE	ICT use, Internet use and e-class	
TEACHING STRUCTURE	Activity	Hours per semester
	Lectures	26
	Weekly assignments	26
	Projects	48
	Εκπαιδευτικές επισκέψεις	20
	Studying – personal work	65
	TOTAL	185
ASSESSMENT METHODS	<p>Assessment Language: Greek</p> <p>Assessment Methods</p> <p>The final rate of the course is computed by two parts as follows:</p> <p>Weekly assignments and projects (70%)</p> <p>Final written exams (30%)</p>	

5. RECOMMENDED READING

Koutsopoulos K., 2002: GIS and Spatial Analysis, Papatotiriou pub, Athens.
 Stefanakis E., 2003: Spatial databases and GIS, Papatotiriou pub, Athens.
 Chalkias C., 2006: Terminology of Geographical Information Science, Ion Pub., Athens.

Longley P.A., M.F. Goodchild, D.J. Maguire, D.W. Rhind, 2005. Geographical Information Systems and Science. John Wiley and Sons, New Jersey, 517 p. Greek Translation, Kleidarithmos pub.

Burrough P., McDonnell R., 2000: Principles of GIS, Oxford University Press

Chang K., 2003: Geographic Information Systems, Mc Graw Hill

DeMers M., 2002: GIS Modelling in Raster, John Wiley & Sons

Fisher P., Unwin D., 2002: Virtual Reality in Geography, Taylor & Francis

Malczewski, J., 1999: GIS and Multicriteria Decision Analysis, New York, John Wiley and Sons.

O' Sullivan, Unwin D., 2003: Geographic Information Analysis, John Wiley & Sons

Stillwell J., Clarke G., 2004: Applied GIS and Spatial Analysis, John Wiley & Sons

Verbyla D., 2002: Practical GIS Analysis, Taylor and Francis.