

COURSE DISCRIPTION

1. GENERAL

SCHOOL	ENVIRONMENT, GEOGRAPHY AND APPLIED ECONOMICS		
DEPARTMENT	GEOGRAPHY		
LEVEL OF COURSE	Undergraduate		
COURSE CODE	ΓΕ0701	SEMESTER	8 th
COURSE TITLE	GEOINFORMATICS APPLICATIONS DEVELOPMENT		
STRUCTURE OF TEACHING ACTIVITIES		TEACHING HOURS PER WEEK	NUMBER OF CREDITS ALLOCATED (ECTS)
Lectures and Laboratory Classes		3	5
TYPE OF COURSE	Optional		
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 module aims to introduce students to the development of computer applications (software development) in the areas of spatial analysis and geoinformatics and deepen their knowledge in statistical programming. This module also aims to inform students on spatial data visualization capabilities with writing code. The technical knowledge acquired by the student refers to software development in the programming language R for implementing Statistical algorithms, Spatial Analysis and data management with GIS principles. This is done in order to support calculations and function that are not necessarily provided by the relevant commercial software.</p>

3. COURSE CONTENTS

<ul style="list-style-type: none"> • The principles of software design • The importance of the user friendliness of software • Principles of Human – Computer Interaction • Object-oriented programming • Introduction to the statistical programming language R • Variables, data types and tables • Cases and Loops • Functions in R
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- Visualization of spatial data with rgdal
- Data visualization with ggplot

4. TEACHING AND ASSESSMENT METHODS

TYPE OF LECTURES	In class lectures Laboratory Lectures and Practice	
ICT USE	Internet use and e-class, use of software (R)	
TEACHING STRUCTURE	Activity	Hours per semester
	Lectures	13
	Laboratory	26
	Project	30
	Studying	60
	TOTAL	129
ASSESSMENT METHODS	Assessment Language: Greek Assessment Methods The final rate of the course is computed by two parts as follows: Final written exams or Optional project	

5. RECOMMENDED READING

Suggested Reading:

- Grady Booch, Robert A. Maksimchuk, Michael W. Engle, Bobbi J. Young, Ph.D., Jim Conallen, Kelli A. Houston, 2007, Object-Oriented Analysis and Design with Applications, Third Edition, Addison-Wesley: London.

Scientific Journals:

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