

COURSE OUTLINE

(1) GENERAL

SCHOOL	SCHOOL OF INFORMATION SCIENCES & TECHNOLOGY		
ACADEMIC UNIT	DEPARTMENT OF STATISTICS		
LEVEL OF STUDIES	1st Cycle (UNDERGRADUATE)		
COURSE CODE	6122	SEMESTER	1 st
COURSE TITLE	Introduction to Programming using R		
INDEPENDENT TEACHING ACTIVITIES		WEEKLY TEACHING HOURS	CREDITS
Lectures		4	7,5
Workshops			
Labs		4	
COURSE TYPE	Compulsory		
PREREQUISITE COURSES:			
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	GREEK		
IS THE COURSE OFFERED TO ERASMUS STUDENTS	NO		
COURSE WEBSITE (URL)	https://www.dept.aueb.gr/en/stat/content/introduction-programming-using-r-75-ects		

(2) LEARNING OUTCOMES

Learning outcomes
Upon successful completion of the course students should be able to manage and import data to R, perform basic R operations, create and analyze simple functions in R.
General Competences
• Search, analysis and synthesis of data and information, using the necessary technologies • Adaptation to new situations • Decision-making • Autonomous work • Work in an interdisciplinary environment • Demonstration of social, professional and ethical responsibility and sensitivity to gender issues • Exercise of criticism and self-criticism

(3) SYLLABUS

Introduction to computers. Basic principles of programming. Introduction to R: basic elements of R; command and window environment. Arithmetic operations. Graphs. Objects and object types. Composite commands: for, while, repeat. Creating programs. Results Lists.

Special commands. Graphs in R, creating multiple graphs. Functions, Functions with multiple outputs.

(4) TEACHING and LEARNING METHODS - EVALUATION

DELIVERY <i>Face-to-face, Distance learning, etc.</i>	Face-to-face	
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY	YES	
TEACHING METHODS	Activity	Semester workload
	Lectures	48
	Lab Exercises	28
	Tutorial	24
	Assignments	37.5
	Self Study	50
	Course total	187.5
STUDENT PERFORMANCE EVALUATION	Written examination at the end of the semester (80%) Written Assignments (20%) Lab Exercises (small bonus) Information is available at eclass	

(5) ATTACHED BIBLIOGRAPHY

- Ντζούφρας Ι., Καρλής Δ., Εισαγωγή στον Προγραμματισμό και στη Στατιστική Ανάλυση με R, Εκδόσεις Ελληνικά Ακαδημαϊκά Συγγράμματα και Βοηθήματα-Αποθετήριο "Κάλλιπος", 2016.
- Δ. Φουσκάκης (2013). Ανάλυση Δεδομένων με Χρήση της R . Εκδόσεις Τσότρας. Αθήνα.
- Crawley, M. (2014) Εισαγωγή στη στατιστική ανάλυση με την R (ελληνική μετάφραση). Εκδόσεις BrokenHill.
- Field, A., Miles, J and Field, Z. (2012). Discovering Statistics Using R. Sage publications Ltd.