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** 1st
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 *Face-to-face, Distance learning, etc.*	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.