COURSE OUTLINE

(1) GENERAL

SCHOOL	Economics and Public Administration		
DEPARTMENT	ECONOMIC AND REGIONAL DEVELOPMENT		
LEVEL OF STUDY	Undergraduate		
COURSE CODE	8006	**SEMESTER OF STUDY**	**A'**
COURSE TITLE	**INTRODUCTION TO INFORMATION SYSTEMS**		

SELF-ENDED TEACHING ACTIVITIES In case the credits are awarded in separate parts of the course, e.g. Lectures, Laboratory Exercises, etc. If the credits are awarded uniformly for the entire period, enter the weekly teaching hours and total credits.	**WEEKLY TEACHING HOURS**	**CREDIT UNITS**
	4	6
Add rows if necessary. The teaching organization and methods are described in detail in (d).		

COURSE TYPE *general knowledge, special knowledge, skill development*	General knowledge, skill development
PREREQUISITE COURSES:	None
TEACHING and EXAMINATION LANGUAGE:	Greek
THE COURSE IS OFFERED TO ERASMUS STUDENTS	No
COURSE WEBSITE (URL)	https://openeclass.panteion.gr/courses/TMI247/

(2) LEARNING OUTCOMES

Learning outcomes

The course's learning outcomes are described as the specific knowledge, skills and abilities of an appropriate level that the students will acquire after successfully completing the course.

Consult Appendix A

• Description of the Level of Learning Outcomes for each course of study according to the Qualifications Framework of the European Higher Education Area

• Descriptive Indicators for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Annex B

• Comprehensive Guide to Writing Learning Outcomes

Upon successful completion of the course, students are expected to have knowledge of the basic IT topics such as digital components of a computer, system software, application software, databases and IT systems. They will be able to describe a problem that needs solving, design the solution algorithm and implement it using the R programming language.

General Competences

They are considering the general skills that the graduate must have acquired (as stated in the Diploma Appendix and listed below); which / which of them is the course aimed at?

Search, analysis and synthesis of data and information using the necessary technologies.
Adaptation to new situations
Decision making
Autonomous work
Teamwork
Work in an international environment.
Work in an interdisciplinary environment.
Generating new research ideas
Project planning and management
Respect for diversity and multiculturalism
Respect for the natural environment
Demonstrating social, professional and ethical responsibility and sensitivity to gender issues
Exercise criticism and self-criticism.
Promotion of free, creative and inductive thinking
Others

The course is aimed at

• Creative thinking using programming to solve problems

• Detailed description of the problems and the steps that can be taken to solve them.

• Development of programs.

(3) COURSE CONTENT

The course is an introduction to Computer Science and consists of two parts. The 1st contains basic concepts such as the components of a computer, systems software, application software as well as more specialized knowledge related to software programming, databases and information

systems. The 2nd part is an introduction to the R programming language.

The following thematic areas are presented in the lectures:

1. Application Software.
2. Systems Software.
3. Hardware.
4. Databases & Information Systems
5. Software Programming
6. Introduction to R.
    a. R installation, RStudio and RStudio environment
    b. Data types, Subsetting, file management
    c. Control structures
    d. Functions
    e. Graphics
    f. Programming standards, Scoping, debugging.
    g. Introduction to the tidyverse.

(4) TEACHING AND LEARNING METHODS – EVALUATION

TEACHING METHOD *Face-to-face, Distance learning etc.*	Face to face
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES *Use of I.C.T. in Teaching, Laboratory Education, in Communication with students Χρήση Τ.Π.Ε. στη Διδασκαλία, στην Εργαστηριακή Εκπαίδευση, στην Επικοινωνία με τους φοιτητές*	*Use of I.C.T. in Teaching, in weekly progress and the final written exam, in teaching support, as well as in Communication with students* https://openeclass.panteion.gr/courses/TMI247/
TEACHING ORGANIZATION *The way and methods of teaching are described in detail. Lectures, Seminars, Laboratory Exercises, Field Exercises, Literature Study & Analysis, Tutorials, Internships (Placement), Clinical Exercises, Art Workshops, Interactive Teaching, Educational Visits, Study Preparation (Projects), Writing Papers / Assignments, Artistic Creation, etc. The student's study hours are listed for each learning activity, and the hours of unguided study according to ECTS principles Activity Semester Workload.*	
STUDENT EVALUATION *Description of the evaluation process Assessment Language, Assessment Methods, Formative or Deductive, Multiple Choice Tests, Short Answer Questions, Essay Development Questions, Problem Solving, Written Assignments, Report / Report, Oral Examination, Public Presentation, Laboratory Work, Clinical Patient Examination, Artistic Interpretation, Other / Others* *Explicitly defined evaluation criteria are mentioned, and if and where they are accessible to students.*	*Description of the evaluation process* - Written exam at the end of the semester: 100% *Student Assessment Methods* - Written Examination *Communication of the explicitly defined evaluation criteria for students* - In the study guide - On the course website: https://openeclass.panteion.gr/courses/TMI247/

ACTIVITY	*SEMESTER WORKLOAD*
Lectures	52
Homework in theory	12
Homework in R	26
Unguided Study	90
Total Course (30 hours per ECTS)	**180**

(5) RECOMMENDED BOOKS AND JOURNALS

- Suggested Literature:

- Beekman Ben, Beekman George (2014). *Εισαγωγή στην πληροφορική*, 10η έκδοση,

Εκδόσεις Χ. Γκιούρδα.

- Evans Alan, Martin Kendall, Poatsy Mary Anne (2018). *Εισαγωγή στην πληροφορική Θεωρία και πράξη*, 2η έκδοση, Εκδόσεις Κριτική.
- Βερύκιος, Καγκλής και Σταυρόπουλος (2015). *Η επιστήμη των δεδομένων μέσα από τη γλώσσα R*. ISBN: 978-960-603-394-0
- Καρλής και Ντζούφρας (2015). *Εισαγωγή στον Προγραμματισμό και στη Στατιστική Ανάλυση με R*. ISBN: 978-960-603-449-7