COURSE OUTLINE

(1) GENERAL

SCHOOL	School of Finance and Statistics
ACADEMIC UNIT	Department of Banking and Financial Management
LEVEL OF STUDIES	1st (Undergraduate)

COURSE CODE	ΧΡΠΛΗ01-1	SEMESTER	3rd

COURSE TITLE	Introduction to Computer Science and Programming

INDEPENDENT TEACHING ACTIVITIES *if credits are awarded for separate components of the course, e.g. lectures, laboratory exercises, etc. If the credits are awarded for the whole of the course, give the weekly teaching hours and the total credits*	WEEKLY TEACHING HOURS	CREDITS
Lectures + Laboratory exercises	6 (4+2)	7.5
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).		

COURSE TYPE *general background, special background, specialised general knowledge, skills development*	Special background
PREREQUISITE COURSES:	
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek and English
IS THE COURSE OFFERED TO ERASMUS STUDENTS	Yes
COURSE WEBSITE (URL)	https://eclass.unipi.gr/courses/XTD211/

(2) LEARNING OUTCOMES

Learning outcomes *The course learning outcomes, specific knowledge, skills and competences of an appropriate level, which the students will acquire with the successful completion of the course are described.* *Consult Appendix A* • *Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area* • *Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B* • *Guidelines for writing Learning Outcomes*
Upon successful completion of the course, the student **(a) will know the basic operating principles of computers** **(b) will have a first contact with MS Word, the MS Excel and MS PowerPoint.** **(c) will know the basic numeral systems (decimal, binary, octal, hexadecimal), and how to convert the representation of numbers from one system to another.** **(d) will know the basic principles of programming in the C language,** **(e) will have a first contact with the R language (installation method, operating environments).**

Within the framework of the combined skills that the graduate will acquire by attending all the courses of the study program, this course aims at the graduate to acquire abilities:

(a) in using computers and applications, as well as computer programming

(b) in working independently

(c) to promote free, creative and inductive thinking

(d) in working in an international environment

(e) in the search for, analysis and synthesis of data and information, with the use of the necessary technology

(f) in adapting to new situations

(3) SYLLABUS

1) Introduction
Hardware-Software
Internet
Computer memory
BIOS

2) Operating systems
Introduction to interacting with commands (MS-Dos commands).

3) Introduction to MS Word, Excel and PowerPoint.

4) Numeral Systems
The binary, octal and hexadecimal numeral systems
Conversions to different numeral systems

5) Principles of programming in C Language
Program structure
Types and variable declarations
Declarations of constants
Commands to display and insert data
Control commands

loop commands
Arrays and Pointers
Strings
Functions
Accessing files in C

6) Introducing the R language
  An introduction to the R language, the RStudio interface, and their installation process.

(4) TEACHING and LEARNING METHODS - EVALUATION

DELIVERY *Face-to-face, Distance learning, etc.*	Face-to-face
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY *Use of ICT in teaching, laboratory education, communication with students*	Powerpoint presentations. Presentations of the C environment using projector, generating and saving code, the process of converting it to an executable file, and the results of its execution. Use of the Laboratory Computers by the students for applications on the course material. Introducing R and RStudio. Support through the e-class online platform.

TEACHING METHODS *The manner and methods of teaching are described in detail.* *Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, placements, clinical practice, art workshop, interactive teaching, educational visits, project, essay writing, artistic creativity, etc.* *The student's study hours for each learning activity are given as well as the hours of non-directed study according to the principles of the ECTS*	Activity	Semester workload
	Lectures	52
	Laboratory education	26
	Independent Study	109.5
	Course total	*187.5*

STUDENT PERFORMANCE EVALUATION *Description of the evaluation procedure* *Language of evaluation, methods of evaluation, summative or conclusive, multiple choice questionnaires, short-answer questions, open-ended questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory work, clinical examination of patient, art interpretation, other* *Specifically-defined evaluation criteria are given, and if and where they are accessible to students.*	Formative and conclusive evaluation is carried out. The final evaluation of the students is done by a written exam or an oral exam. The exam includes multiple choice questionnaires and short-answer questions. Moreover, the students are evaluated on computer programming at the lab, and on a take-home assignment.

(5) ATTACHED BIBLIOGRAPHY

- Suggested bibliography:
1) Computers and Applications (in Greek). N. Kourogenis and S. Chrysikopoulos. (Varvarigou eds)
2) Notes and code (programs) of the Tutor (accessed through e-class)