

■ CC13 - Introduction to Computers

GENERAL

SCHOOL	SCIENCE		
DEPARTMENT	MATHEMATICS		
LEVEL OF STUDIES	UNDERGRADUATE		
COURSE CODE	CC13	SEMESTER	A
COURSE TITLE	INTRODUCTION TO COMPUTERS		
INDEPENDENT TEACHING ACTIVITIES	WEEKLY TEACHING HOURS	ECTS	
Lectures	2	7	
Computer-Lab	2		
COURSE TYPE	Scientific Field		
PREREQUISITE COURSES	-		
LANGUAGE OF TEACHING AND EXAMINATIONS	Greek/English		
THE COURSE IS OFFERED TO ERASMUS STUDENTS	YES		
COURSE WEBSITE (URL)	http://eclass.uowm.gr/		

LEARNING OUTCOMES

Learning Outcomes

After the successful completion of the course, the students:

- will be able to know the basic notions of computers,
- will be able to recognize and evaluate the technical characteristics of devices,
- will be able to compute various quantities related to memory capacity, data transfer speed and other technical quantities,
- will be able to evaluate and conclude the appropriateness of certain provisions and applications,
- will be able to install various operating systems on a PC,
- will be able to create documents and presentations with LaTeX.

General Competencies

- Search, analysis and synthesis of data and information, using the necessary technologies.
- Individual work.
- Promotion of free, creative and inductive thinking.
- Generating new research ideas.

CONTENT OF THE COURSE

Basic notions, the meaning of information, calculations and auxiliary means, historical development of Computer Science, numbering systems, coding of information, introduction to algebra Boole and basic logic circuits, the computer hardware, description and analysis of various structural elements that make up a computer, computer peripherals, computer organization, computer arithmetic, processor structure and function, computer memory and its organization. Algorithms, programs and programming, operating systems, data processing, computer networks, internet, information systems and applications. In detail, the sections are:

- Introduction to numerical systems.
- Number representation and codes.
- Arithmetic on the computer.
- Boolean algebra, logic gates.
- Functional structure of computer, basic unit.
- Memory in the computer, memory organization, peripheral memory.
- Computer assembly.
- Peripheral devices.
- Software, Operating systems.
- Installation of operating systems on PCs.
- Digitalization. The concept of file, types of files.
- Computer networks and communications.
- Internet.

- Introduction to LaTeX installation and document creation, document structure. δομή εγγράφου, τύποι εγγράφου. Design and layout. Writing mathematics, equations, arrays, tables. Bibliography, Presentations (beamer)

TEACHING AND LEARNING METHODS - EVALUATION

TEACHING METHOD	In the classroom and computer-lab.											
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY	Use of e-class. Laboratory teaching.											
TEACHING ORGANIZATION	<table border="1"> <thead> <tr> <th style="background-color: #cccccc;">Activity</th> <th style="background-color: #cccccc;">Semester Workload</th> </tr> </thead> <tbody> <tr> <td>Lectures</td> <td>26 hours</td> </tr> <tr> <td>Individual Study</td> <td>123 hours</td> </tr> <tr> <td>Laboratory Exercise</td> <td>26 hours</td> </tr> <tr> <td>Course Total (25 hours per ECTS)</td> <td>175 hours</td> </tr> </tbody> </table>		Activity	Semester Workload	Lectures	26 hours	Individual Study	123 hours	Laboratory Exercise	26 hours	Course Total (25 hours per ECTS)	175 hours
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STUDENT EVALUATION	<p>Approximately in the middle of the semester, an intermediate exam (progress) will take place, which will participate with a percentage of 30% in the formation of the final grade.</p> <p>The exam at the end of the semester will contribute 40% to the final grade.</p> <p>In the laboratory part of the course there will be an exam using a specialized software which will participate with a percentage of around 20% in the formation of the final grade, while there will also be a written exam, with multiple choice questions, which will participate with a percentage of 10% in the formation of the final grade.</p>											

RECOMMENDED BIBLIOGRAPHY

1. Garmpis Aristogiannis & Fotiadis Dimitrios. (2015). Introduction to Computers and Informatics. Publications Arakynthos. (Greek)
2. Evans, Alan, & Kendall, Martin & Poatsy, Mary Anne. (2018). Introduction to Informatics (2nd edition). Publications Kritiki S.A. (Greek)