University of Nicosia, Cyprus

Course Code COMP-151	**Course Title** Computer Fundamentals	**ECTS Credits** 6
Department Computer Science	**Semester** Fall / Spring / Summer	**Prerequisites** None
Type of Course Elective	**Field** Computer Science	**Language of Instruction** Greek or English
Level of Course 1st Cycle	**Year of Study** 1st	**Lecturer(s)** Vasso Stylianou
Mode of Delivery face-to-face	**Work Placement** N/A	**Co-requisites** None

Objectives of the Course:

The main objectives of the course are:
• Introduce students to the digital world. Follow the developments in computer hardware and software from the initial steps of generation to modern and future time.
• Introduce the components of an information system, i.e., hardware, software, data, networks, facilities, personnel, services and partners.
• Closely examine information system's hardware. Specifically consider the processing unit, input and output devices, and primary and secondary storage. Examine the technology and analyze its characteristics.
• Examine information systems in organizations. Explore different types of software: applications, system software.
• Introduce information systems' development. Consider the Systems Development Life Cycle (SDLC). Introduce computer programming languages and database concepts.
• Introduce data communications. Focus on local area networks and consider security issues.
• Explore the Internet, web resources and their use.
• Address information systems security, and issues relating to ethics, and crime in the computer world.

Learning Outcomes:

Students will be able to:
• Appreciate the role of information systems and technology in our digital world.
• Comprehend the developments occurring in the information technology era from its initiation to present time and the future trends.
• Name and describe the components of an information system. More specifically and concerning information system's hardware the student should be able to describe and analyze the characteristics of the processing unit, input and output devices, and primary and secondary storage.
• Based on the knowledge gained above the student should be able to suggest a certain

computer configuration based on specified organization or personal needs.
• Understand data representation and work with different number systems.
• Describe an I. S. professional and his/her role and career opportunities in an organization.
• Differentiate between application and systems software and subtypes.
• Understand the requirements for developing an information system: process (e.g. SDLC), computer programming languages, and data storage.
• Demonstrate basic knowledge about data communications, the Internet and web resources.
• Understand how to secure information systems resources, focusing on both human and technological safeguards.
• Understand how information systems raise ethical concerns in society, and how they influence crime.

Course Content:

1. Characteristics of the digital world
2. History of computers
3. Current I.T. trends
4. Information systems components
• Hardware
• Software
• Data
• Networks
• Facilities
• Personnel
• Services
• Partners
5. The computer hardware
• The processing unit
• Input and output media and devices
• Primary and secondary storage
6. Computer number systems and data representation
7. Microcomputers and mobile computing
8. Information systems in organizations
• Characteristics of IS professionals
• IS career paths
• Cost/value information
• Quality of information
• Competitive advantage of information
9. Globalization; the digital divide
10. Application and systems software
11. Developing information systems; the systems development life cycle
12. Computer programming languages
13. Files and databases
14. Data Communications. Local area networks and security.
15. The Internet and Web Resources
• E-business
B-to-C
B-to-B
• Intranets, Internet, Extranets

• E - government
• Web 2.0
• Technologies: e.g., Wikis, tags, blogs, netcasts, self- publishing
• New forms of collaboration: social networking, virtual teams, viral marketing, crowdsourcing
• Securing Information Systems Threats to information systems Technology –based safeguards Human - based safeguards
• Information Systems Ethics and Crime
• Social justice
Intellectual property
Information privacy, accuracy, and accessibility
Computer abuse and computer crime

Teaching Methods:

Lectures, Software and hardware in-class demonstrations

Assessment Methods:

Assignments and Class Participation, Midterm Exam,
Final Exam

Required Textbooks:

Authors	Title	Publisher	Year	ISBN
A. Evans, M. Poatsy, K. Martin	*Technology in Action, 8/e*	Prentice Hall	2012	9780131391574

Recommended Textbooks/Reading:

Authors	Title	Publisher	Year	ISBN
J. Parsons, D. Oja	*Computer Concepts: Comprehensive, 11/e*	Thomson Course Technology	2008	9781423925187