# UNIVERSITY of NICOSIA

# Course Syllabus

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

**Course Objectives:**

The main objectives of the course are to:
- 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:**

After completion of the course students are expected to 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:**

- Characteristics of the digital world
- History of computers
- Current I.T. trends
- Information systems components
    - o Hardware
    - o Software
    - o Data
    - o Networks
    - o Facilities
    - o Personnel
    - o Services
    - o Partners
- The computer hardware
    - o The processing unit
    - o Input and output media and devices
    - o Primary and secondary storage
- Computer number systems and data representation
- Microcomputers and mobile computing
- Information systems in organizations
    - o Characteristics of IS professionals
    - o IS career paths
    - o Cost/value information
    - o Quality of information

- o Competitive advantage of information
- Globalization; the digital divide
- Application and systems software
- Developing information systems; the systems development life cycle
- Computer programming languages
- Files and databases
- Data Communications.  Local area networks and security.
- The Internet and Web Resources
  - o E-business
    - B-to-C
    - B-to-B
  - o Intranets, Internet, Extranets
  - o E-government
  - o 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
  - o Threats to information systems
  - o Technology-based safeguards
  - o Human-based safeguards
- Information Systems Ethics and Crime
  - o Social justice
  - o Intellectual property
  - o Information privacy, accuracy, and accessibility
  - o Computer abuse and computer crime

**Learning Activities and Teaching Methods:**

Lectures, Videos, Readings, Forum Discussions, Assignments, Quizzes, Examinations

**Assessment Methods:**

Quizzes, Assignments, Participation, Examination(s)

**Required Textbooks / Readings:**

| Title | Author(s) | Publisher | Year | ISBN |
|---|---|---|---|---|
| Technology in Action, 14/E | Evans, A., Martin, K., Poatsy, M.A. | Pearson | 2018 | 9780134608228 |

**Recommended Textbooks / Readings:**

| Title | Author(s) | Publisher | Year | ISBN |
|---|---|---|---|---|
| New Perspectives on Computer Concepts: Comprehensive, 20/e | J. Parsons | Cengage Learning | 2018 | 9781305951495 |