

Course Title	Readings and Seminars in Computing				
Course Code	ACSC115				
Course Type	Compulsory				
Level	BSc (Level 1)				
Year / Semester	1 st (Fall)				
Teacher's Name	Dr Christos Markides, Dr Andreas Constantinides, Dr Giorgos Demetriou				
ECTS	5	Lectures / week	2	Laboratories/week	N/A
Course Purpose	<p>The course considers the application and research areas of Computer Science and Computer Engineering. The aim of the subject is to introduce Computer Science and Computer Engineering students to the history, theory, practice, and application of computer science and engineering research, and technology for the innovation, and inspiration of products and services used to day or in the future. The subject will comprise of a set of introductory presentations, seminar, and lectures by the members of the Computer Science and Engineering Department, as well as guest speakers from the industry and other organisations, introducing their research areas, and industrial applications of computing.</p>				
Learning Outcomes	<p>By the end of the course, the students are expected to:</p> <ol style="list-style-type: none"> 1. Review computer history, organisation and architecture. Understand the structure and operations of modern computer systems, as well as the progress and research carried out on computer hardware (CPU, memory, and storage), operating systems, and computer software. 2. Examine different aspects of computing and outline significant events and milestones that have contributed in the evolution of computing. 3. Evaluate current practices and research carried out in the industry or academia for developing hardware, software, and services. 4. Perform literature searches, analyse and retrieve information, as well review and critically comment on research and scientific work presented. 				
Prerequisites	None		Co-requisites	None	
Course Content	<ul style="list-style-type: none"> • Areas of Computing: Computer history, organisation and architecture. Understand the structure and operations of modern computer systems, as well as the progress and research carried out on computer hardware (CPU, memory, and storage), operating systems, and computer software. • Aspects of Computing: Computer Software and Services, Evolution of the Internet and the World Wide Web, Web Applications, Mobile and Ubiquitous Computing, Smartphone Applications, Internet of Things, Databases and the era of Big Data, Cybersecurity, Robotics and Automation Systems, Applications of Computing in Healthcare, Evolution of Computer Networks, High Performance Computing, Embedded 				

	<p>Systems, Parallel Processing, Cloud Computing, Artificial Intelligence and Machine Learning, Computer Graphics and Multimedia, Smart Cities and Services.</p> <ul style="list-style-type: none"> • Industrial Applications of Computing: Guest presentations from the local industries and organisations on the application of computing in addressing a wide variety of business, social, and digital problems. • Research skills: Accessing the library information system and the digital libraries for performing literary searches over a specific topic, retrieve information, as well review and critically comment on research and scientific work presented.
Teaching Methodology	<p>The taught part of course is delivered to the students by means of lectures, conducted with the help of computer presentations. Lecture notes and presentations are available through the e-learning platform and the web for students to use in combination with the textbooks.</p> <p>Lectures are supplemented with laboratory work. During laboratory sessions, students are instructed to assemble a computer from hardware parts. Students are then able to install and troubleshoot operating systems (Windows and Linux) and computer software, and use the Linux operating system command line interface.</p>
Bibliography	<p><u>Textbooks:</u></p> <ul style="list-style-type: none"> • Nell Dale, John Lewis, "Computer Science Illuminated", 7th Edition, Jones and Bartlett, 2019, ISBN: 978-1284155617. <p><u>References:</u></p> <ul style="list-style-type: none"> • Material provided during lecture, invited presentations, and seminars. Reference to academic journals and other material are provided accordingly during the lecture or seminar.
Assessment	<p>The assessment of the course includes a set of assignments based on the lectures, presentations, and workshops delivered during the semester, class participation, questionnaire/survey participation, and the a final report based on the topics covered in the course to be submitted at the end of the semester.</p> <p>The weights for each assessment component are:</p> <ul style="list-style-type: none"> • Assignments: 60% • Class Participation: 10% • Questionnaire/Survey: 10% • Final Report: 20%
Language	English