

Course Title	Computer Engineering Placement				
Course Code	ACOE399				
Course Type	Compulsory				
Level	3 (BSc)				
Year / Semester	3 rd / 6 th Semester				
Teacher's Name	Prof Costas Kyriacou				
ECTS	6	Lectures / week	0	Laboratories / week	2
Course Purpose	The purpose of this course is to familiarize students with the world of practice and equip students with practical/technical skills related to the field of computer engineering. To this end, the course consists of three components: (a) a preparatory workshop, (b) preparation for IT certification and (c) work placement.				
Learning Outcomes	<ol style="list-style-type: none"> 1. Define information technology (IT) and describe the components of a personal computer. 2. Perform a step-by-step assembly of a desktop computer and install and navigate an operating system, explain and perform preventive maintenance. 3. Diagnose and apply upgrade or replace components of a laptop, printer, or scanner based on customer needs. Explain the steps of the troubleshooting process and perform basic troubleshooting. 4. Configure computers to attach to an existing network and implement basic physical and software security principles. 5. Assess customer needs, analyze possible configurations, and provide solutions or recommendations for hardware, operating systems, networking, and security 				
Prerequisites	ACOE 201, ACSC183 and ACOE313				
Course Content	<p>Workshop component of the course: One of the objectives of the course is to help students develop practical skills related to the field of computer engineering.</p> <ul style="list-style-type: none"> • Introduction to the Personal Computer: Identifying components of a computer system, including cases and power supplies, internal components, ports and cables, and input and output devices. • Safe Lab Procedures and Tool Use: Safe working conditions and procedures along with the tools and software used with personal computer components and implement proper tool use. 				

	<ul style="list-style-type: none"> • Computer Assembly: Open the computer case, install the power supply, attach the components to the motherboard, and install the motherboard, internal drives, drives in external bays, and adapter cards. Connect all internal cables, reattach the side panels, and connect external cables to the computer and boot the computer for the first time. • Basics of Preventive Maintenance and Troubleshooting: Explain the purpose of preventive maintenance and helps you identify the elements of the troubleshooting process. • Fundamental Operating Systems: Covering the fundamentals, properties and characteristics of operating systems. Install an operating system, navigate a GUI, apply common preventive maintenance techniques, and troubleshoot. Understand and implement dual boot systems and multiple operating systems with virtualization. • Fundamental Laptops and Portable Devices: Identify external laptop components, comparing and contrasting desktop and laptop components and maintenance. • Fundamental Printers and Scanners: In this chapter you learn the types of printers and scanners currently available and how to install and configure them. You also learn how to apply common preventive maintenance techniques and troubleshoot. • Fundamental Networks: The principles of networking are explained and the different types of networks, basic networking concepts and technologies, and the physical components of a network. Understand the OSI, TCP/IP and LAN topologies and architectures and can identify standards organizations and Ethernet standards. • Fundamental Security: You'll learn why security is so important in this chapter, which describes security threats and identifies security procedures, and learn common preventive maintenance techniques for security. • Communication Skills: Developing PC technician and good communication skills. Ethics and legal aspects of working with computer technology. Modern call-centre environment and technician responsibilities.
Teaching Methodology	<p>During the Spring semester, students attend a series of workshops which aim to prepare them for a successful placement in the industry. In parallel to this, students register and complete the CISCO certification course "IT Essentials", where they can optionally take the exam and obtain the relevant certification.</p> <p>During the Summer, students must work under the supervision of a mentor, in the IT sector for 160 hours. The employer for each student is approved by the Department, prior to the beginning of the work placement. During the work placement period, students maintain a log book where they record their activities on a daily basis.</p>

Bibliography	Patrick Regan, CISCO: <i>IT Essentials: PC Hardware and Software Lab Manual</i> , CISCO Press
Assessment	<ul style="list-style-type: none">• Test: 30%• Laboratory Work: 30%• Log Book 40%
Language	English