LONDON CAPITAL COMPUTER COLLEGE

Certificate in Computer Fundamentals (105) – Computer Fundamentals

Prerequisites: Basic computing knowledge	**Corequisites:** A pass or higher in Certificate in Information Systems or equivalence.
Aim: The course identifies and describes the most widely used general software applications, the difference between application software and programming languages and the role of operating system software.	
Required Materials: Recommended Learning Resources.	**Supplementary Materials:** Lecture notes and tutor extra reading recommendations.
Special Requirements: None	
Intended Learning Outcomes:	**Assessment Criteria:**
1. Describe an Information System (IS) organisation. Analyse the role of information systems organisation. Define IT in an eWorld.	1.1 Define computer technology 1.2 Describe IT management roles 1.3 Analyse competition in an eWorld.
2. Describe the computer generations. Define mainframe, minicomputer and microcomputer. Understand how characters are stored in computer memory.	2.1 Describe vacuum tubes, transistors, integrated circuits 2.2 Describe basic components of computer systems 2.3 Define bits, bytes and parity bits; ALU and control unit 2.4 Describe computer file layout.
3. Define computer software. Describe the different types of software. Understand the different computer filing methods.	3.1 Define application software 3.2 Define operating system 3.3 Describe support software 3.4 Describe indexed sequential access 3.5 Describe direct file access 3.6 Define virtual storage access.
4. Describe the key elements of telecommunications and networking. Understand types of transmission lines, media and speed of transmission. Describe network topology.	4.1 Demonstrate the importance of Telecommunications 4.2 Define networking, analogue and digital signals 4.3 Define bandwidth, baud rate, simplex, half-duplex and full-duplex transmission 4.4 Define bus, ring, star and mesh topology 4.5 Define intranet
5. Describe the transaction process system. Define client/server systems.	5.1 Describe batch vs online processing 5.2 Define client, server and middleware 5.3 Define data warehousing and groupware.
6. Describe the different managerial support systems in use.	6.1 Describe decision support systems 6.2 Describe data mining 6.3 Define group support systems 6.4 Define expert systems 6.5 Define neutral networks.
7. Describe the different eCommerce applications available on the market. Understand the internet legal and regulatory environment.	7.1 Define internet applications 7.2 Define electronic transmission 7.3 Describe buyer/server transactions

	7.4 Define electronic commerce framework 7.5 Describe business-to-computer (B2C) 7.6 Describe business-to-business (B2B).
8. Describe basic computer components and instruction processing	8.1 Define how the major parts of a computer are coordinated 8.2 Identify memory/address space 8.3 Define a “word” in computing 8.4 Define registers
9. Discuss computer memory organisation	9.1 Identify computer instruction set 9.2 Discuss data movements between memory and registers 9.3 Discuss the different addressing modes
10. Describe device registers	10.1 Identify input/output interface device registers 10.2 Discuss the process of addressing device registers 10.3 Explain sychnronisation 10.4 Discuss input/output interrupt signals 10.5 Define Direct Memory Access (DMA)

Recommended Learning Resources: Computer Fundamentals

Text Books	• Discovering Computers: Fundamentals, Fourth Edition by Gary B. Shelly, Thomas J. Cashman and Misty E. Vermaat. ISBN-10: 1423912101 • Fundamentals of Computer Organization and Architecture by Mostafa Abd-El-Barr and Hesham El-Rewini. ISBN-10: 0471467413 • Computers: Information Technology in Perspective, 11th Edition (Paperback) by Larry Long and Nancy Long. ISBN-10: 0131405721 • The Architecture of Computer Hardware and Systems Software: An Information Technology Approach (Hardcover) by Irv Englander. ISBN-10: 0471073253 • Computers: Understanding Technology, Introductory [STUDENT EDITION] (Paperback) by Floyd Fuller. ISBN-10: 0763829285
Study Manuals 	BCE produced study packs
CD ROM 	Power-point slides
Software 	None