

ECDL - Module 1 - Concepts of Information Technology (IT)The following is the Syllabus for Module 1, *Concepts of Information Technology (IT)*.**Module Goals**

Module 1 Concepts of Information Technology (IT), requires the candidate to have an understanding of some of the main concepts of IT at a general level. The candidate is required to understand the make-up of a personal computer in terms of hardware and software and to understand some of the concepts of Information Technology (IT) such as data storage and memory. The candidate shall also understand how information networks are used within computing and be aware of the uses of computer-based software applications in everyday life. The candidate shall appreciate health and safety issues as well as some environmental factors involved in using computers. The candidate shall be aware of some of the important security and legal issues associated with using computers.

CATEGORY	KNOWLEDGE AREA	REF.	Knowledge Item	Tick
1.1 General Concepts	1.1.1 Hardware, Software, Information Technology	1.1.1.1	Understand the terms hardware, software, Information Technology (IT).	
	1.1.2 Types of Computer	1.1.2.1	Understand and distinguish between main- frame computer, network computer, personal computer, laptop, personal digital assistant(PDA) in terms of capacity, speed, cost, and typical users.	
	1.1.3 Main Parts of a Personal Computer	1.1.3.1	Know the main parts of a personal computer such as: central processing unit (CPU), hard disk, common input and output devices, types of memory. Understand the term peripheral device.	
	1.1.4 Computer Performance	1.1.4.1	Know some of the factors that impact on a computer's performance such as: CPU speed, RAM size, the number of applications running.	
1.2 Hardware	1.2.1 Central Processing Unit	1.2.1.1	Understand some of the functions of the CPU in terms of calculations, logic control, immediate access memory. Know that the speed of the CPU is measured in megahertz (MHz) or gigahertz (GHz).	
	1.2.2 Memory	1.2.2.1	Understand different types of computer memory such as: RAM (random-access memory), ROM (read-only memory) and distinguish between them.	
		1.2.2.2	Know how computer memory is measured: bit, byte, KB, MB, GB, TB. Relate computer memory measurements to characters, files and directories/folders.	
	1.2.3 Input Devices	1.2.3.1	Identify some of the main devices for inputting data into a computer such as: mouse, keyboard, trackball, scanner, touchpad, light pen, joystick, digital camera, microphone.	
	1.2.4 Output Devices	1.2.4.1	Identify common output devices for displaying the results of processing carried out by a computer, such as: monitors, screens, printers, plotters, speakers. Know where these devices are used.	
	1.2.5 Input/ Output Devices	1.2.5.1	Understand some devices are both input/ output devices such as: touchscreens.	
	1.2.6 Storage Devices	1.2.6.1	Compare the main types of memory storage devices in terms of speed, cost and capacity such as: diskette, Zip disk, data cartridges, CD-ROM, internal, external hard disk.	
1.2.6.2		Understand the purpose of formatting a disk.		
1.3 Software	1.3.1 Types of Software	1.3.1.1	Distinguish between operating systems software and applications software. Understand the reasons for software versions.	
	1.3.2 Operating System Software	1.3.2.1	Describe the main functions of an operating system and name some common operating systems.	
	1.3.3 Applications Software	1.3.3.1	List some common software applications such as: word processing, spreadsheet, database, Web browsing, desktop publishing, accounting, together with their uses.	
	1.3.4 Graphical User Interface	1.3.4.1	Understand the term Graphical User Interface(GUI).	
	1.3.5 Systems Development	1.3.5.1	Understand how computer-based systems are developed. Know about the process of analysis, design, programming and testing often used in developing computer- based systems.	
1.4 Information Networks	1.4.1 LAN, WAN	1.4.1.1	Understand the terms, local area network(LAN), wide area network (WAN). Understand the term client/server.	
		1.4.1.2	List some of the advantages associated with group working such as: sharing printers, applications, and files across a network.	
	1.4.2 Intranet, Extranet	1.4.2.1	Understand what an intranet is and understand the distinction between the Internet and an intranet.	
		1.4.2.2	Understand what an extranet is and understand the distinction between an intranet and an extranet.	
	1.4.3 The Internet	1.4.3.1	Understand what the Internet is and know some of its main uses.	
		1.4.3.2	Understand what the World Wide Web(WWW) is and distinguish it from the Internet.	
	1.4.4 The Telephone Network in Computing	1.4.4.1	Understand the use of the telephone network in computing. Understand the terms Public Switched Telephone Network (PSTN), Integrated Services Digital Network (ISDN), Asymmetric Digital Subscriber Line (ADSL).	
		1.4.4.2	Understand the terms analogue, digital, modem, transfer rate, (measured in bps- bits per second).	

CATEGORY	KNOWLEDGE AREA	REF.	Knowledge Item	Tick
1.5 The Use of IT in Everyday Life	1.5.1 Computers at Work	1.5.1.1	Identify some situations where a computer might be more appropriate than a person for carrying out a task and where not.	
		1.5.1.2	Know some of the uses of large-scale computer applications in business such as: business administration systems, airline booking systems, insurance claims processing, online banking.	
		1.5.1.3	Know some of the uses of large-scale computer applications in government such as: public records systems (census, vehicle registration), revenue collection, electronic voting.	
		1.5.1.4	Know some of the uses of large-scale computer applications in hospitals/healthcare such as: patient records systems, ambulance control systems, diagnostic tools and instruments, specialist surgical equipment.	
		1.5.1.5	Know some of the uses of computer applications in education such as: student registration and timetabling systems, computer-based training (CBT), distance learning, homework using the Internet.	
		1.5.1.6	Understand the term teleworking. List some of the advantages of teleworking such as: reduced or no commuting time, greater ability to focus on one task, flexible schedules, reduced company space requirements. List some disadvantages of teleworking such as: lack of human contact, less emphasis on teamwork.	
	1.5.2 Electronic World	1.5.2.1	Understand the term electronic mail (e-mail) and know its main uses.	
		1.5.2.2	Understand the term e-Commerce. Understand the concept of purchasing goods and services online, including giving personal details before a transaction can be carried out, payment methods, consumer's basic right to return unsatisfactory goods.	
		1.5.2.3	List some of the advantages of purchasing goods and services online, such as: services available 24 hours a day, opportunity to view a wide range of products. List some of the disadvantages of purchasing goods and services online such as: choosing from a virtual store, no human contact, risk of insecure payment methods.	
	1.6 Health and Safety, Environment	1.6.1 Ergonomics	1.6.1.1	Understand what elements and practices can help create a good, working environment such as: appropriate positioning of monitors, keyboards and adjustable chairs, use of a mouse mat, use of a monitor filter, provision of adequate lighting and ventilation, frequent breaks away from the computer.
1.6.2 Health Issues		1.6.2.1	List some common health problems which can be associated with using a computer such as: injuries to wrists caused by prolonged typing, eye strain caused by screen glare, back problems associated with poor seating or bad posture.	
1.6.3 Precautions		1.6.3.1	List some safety precautions when using a computer such as: ensuring power cables are safely secured, power points are not overloaded.	
1.6.4 The Environment		1.6.4.1	Be aware that recycling printed outputs, recycling printer toner cartridges, using a monitor that consumes less power while the computer is inactive can help the environment.	
	1.6.4.2	Understand that using electronic documents can help reduce the need for printed materials.		
1.7 Security	1.7.1 Information Security	1.7.1.1	Understand the term information security and the benefits to an organisation of being proactive in dealing with security risks such as: adopting an information security policy with respect to handling sensitive data, having procedures for reporting security incidents, making staff members aware of their responsibilities with respect to information security.	
		1.7.1.2	Know about privacy issues associated with computers, such as adopting good password policies. Understand what is meant by user ID and differentiate between user ID and password. Understand the term access rights and know why access rights are important.	
		1.7.1.3	Know about the purpose and value of backing up data, software to a removable storage device.	
		1.7.1.4	Be aware of possible implications of theft of a laptop computer, PDA, mobile phone such as: possible misuse of confidential files, loss of files, loss of important contact details if not available on a separate source, possible misuse of telephone numbers.	
	1.7.2 Computer Viruses	1.7.2.1	Understand the term virus when used in computing and understand that there are different types of virus. Be aware when and how viruses can enter a computer system.	
		1.7.2.2	Know about anti-virus measures and what to do when a virus infects a computer. Be aware of the limitations of anti-virus software. Understand what 'disinfecting' files means.	
		1.7.2.3	Understand good practice when downloading files, accessing file attachments, such as: use of virus scanning software, not opening unrecognised e-mail messages, not opening attachments contained within unrecognised e-mail messages.	
1.8 Copyright and the Law	1.8.1 Copyright	1.8.1.1	Understand the concept of copyright when applied to software, and also to files such as: graphics, text, audio, video. Understand copyright issues involved in downloading information from the Internet.	
		1.8.1.2	Understand copyright issues associated with using and distributing materials stored on removable media such as CD's, Zip disks, diskettes.	
		1.8.1.3	Know how to check the Product ID number for a software product. Understand the terms shareware, freeware, end-user license agreement.	
	1.8.2 Data Protection Legislation	1.8.2.1	Know about data protection legislation or conventions in your country. Understand the implications of data protection legislation for data subjects and data holders. Describe some of the uses of personal data.	