

Learning Outcome 1: Understand how ICT can be used to meet business needs

1. Introduction to Computer Systems	desktop and portable devices, i.e. laptops, netbooks, tablets, smartphones
2. Systems input and output devices	input devices, i.e. mice, keyboard, microphone, sensors, pads, specialist keyboards, touch pad, microphones, remote controls, scanners, digital cameras, webcams, touch screens, readers for barcodes, magnetic stripes and chip and pin, MIDI instruments output devices, i.e. monitor/screens, printers, speakers, head/earphones, digital projectors, data projectors, plotters, actuators
3. Systems Software	operating systems (e.g. Windows, OS X, Android, iOS) utility software (e.g. computer security)
4. Application Software	applications software, i.e. word processors, desktop publishing software, spreadsheets, database management software, multimedia software, slideshow software, video-editing software, graphics manipulation software, communications software (e.g. social networking software, chat, instant messaging, file transfer and email clients), presentation software, gaming software, web browsers, apps for portable devices
5. Storage and Connectivity	optical disks (e.g. CD and DVD for data storage) – magnetic media (e.g. internal and external hard disk drives (HDD), tape) – Solid State Drives (SSD) – Memory cards, i.e. flash memory devices – network devices (e.g. routers, modems) – cloud storage
6. Assistive Technology	typical office configurations – customised systems for specified needs, i.e.: • physical impairment, i.e. sight, hearing, movement • remote working (e.g. travelling, hotel or home) • how the following factors can affect the choice of system: cost, availability, user needs, data security • how peripherals can be connected to a computer device, i.e.: ○ wired methods (e.g. USB, firewire) ○ wireless methods (e.g. wifi, Bluetooth, infra-red) • how to connect a computing device to an existing wireless network, i.e.: ○ network name, i.e. Service Set Identifier (SSID) ○ the use of security keys ○ appropriate firewall settings for public and private networks • how organisations can monitor employees, i.e. GPS location tracking, monitoring internet use, monitoring communications.
7. Data-capture methods	data capture methods, i.e.: ○ online and paper-based forms ○ automated data capture systems, i.e. control system sensors, barcode readers, Radio Frequency Identification Device (RFID), Near Field Communication (NFC) • how the following factors can affect the choice of method: ○ nature of information to be collected (e.g. environmental conditions, location of information) ○ cost ○ availability ○ ease of use ○ data security

Learning Outcome 2: Know how to work with information and data to meet specified business needs

8. Designing Data-Capture Forms	<p>how to design data capture forms to obtain specified information</p> <ul style="list-style-type: none"> • how to code information for use in a spreadsheet or database
9. File formats	<ul style="list-style-type: none"> • file formats for storing data, i.e.: <ul style="list-style-type: none"> ○ proprietary formats, i.e. .doc, .xls, .ppt, .swf, .wma, .aac ○ open formats, i.e. .rtf, .pdf, .csv, .exe, .txt, .mp3, .wav
10.Data Validation Methods	<p>data validation methods</p> <p>Range Check, Data type check, Invalid character check, Check digit, List Check</p>
11.Data Storage Technologies	<ul style="list-style-type: none"> • data storage technologies, i.e.: <ul style="list-style-type: none"> ○ local and removable media ○ remote storage (e.g. offsite location, cloud storage)
12.Data Transferral methods	<p>data transferring technologies, i.e.:</p> <ul style="list-style-type: none"> ○ wired and wireless methods ○ mobile data transmission (e.g. 3g, 4g) ○ remote methods (e.g. email, internet/cloud, peer to peer file sharing) ○ security methods, i.e. data encryption ○ how the following factors can affect the choice of method: file size, transfer speed, future-proofing, data security, user needs
13.Speed and Optimisation	<p>the factors affecting the appropriate optimisation of electronic files (e.g. download speeds, quality of product)</p>
14.Back-up and Recovery	<p>how to use back-up and recovery systems, i.e.:</p> <ul style="list-style-type: none"> ○ data storage media (e.g. removable devices, remote storage) ○ back-up frequency ○ archiving ○ automated versus manual systems • how the following factors can affect the choice of method: cost, availability, ease of use, data security

Learning Outcome 3: Know how ICT can be used to support business working practices

15. Business Communications	Learners must be taught: <ul style="list-style-type: none">• how businesses can communicate with employees and others working remotely, i.e. voice telephones, SMS, instant messaging, e-mail, chat rooms, forums, bulletin boards, Voice-over-IP (VoIP), video conferencing, webcams, blogs, social networking○ appropriate use of remote communication tools, i.e. for email appropriate use of subject, cc/bcc, attachments and email etiquette○ the benefits and drawbacks of these methods
16. Diary Management Software	how diary management software can be used to organise work schedules, i.e.: <ul style="list-style-type: none">○ creating appointments/meetings○ inviting participants○ creating tasks○ creating to-do lists
17. Collaborative Document Creation	how documents can be created and edited collaboratively, i.e.: <ul style="list-style-type: none">○ documents in shared access locations, i.e.:<ul style="list-style-type: none">– network shared areas (e.g. read/write access)– cloud-based services (e.g. providing open or restricted access to services enabling the creating/editing of documents online)○ inserting comments into an existing draft○ editing drafts, tracking changes made○ reviewing facilities: accepting or rejecting changes made.

Learning Outcome 4: Understand how legal, ethical, safety and security issues affect how computers should be used

<p>18. Moral, Ethical issues of computer use</p>	<p>how legislation affects business computer users, i.e.:</p> <ul style="list-style-type: none"> o health and safety o data protection o copyright o computer misuse <p>how moral and ethical issues affect business computer users, i.e.:</p> <ul style="list-style-type: none"> o the use and abuse of personal and private data o cyberbullying o monitoring of individuals by organisations through the use of: <ul style="list-style-type: none"> – worker monitoring/logging, – cookies, – key logging, – worker call monitoring/recording, – electronic consumer surveillance, – mobile phone triangulation
<p>19. Implications of Data loss, corruption or Theft</p>	<p>the implications and consequences for organisations of data loss, corruption and theft, i.e.:</p> <ul style="list-style-type: none"> o legal implications (e.g. action from the Information Commissioner) o impact on customers (e.g. reduced confidence in business, increased risk of personal identity theft) o impact on employees (e.g. disciplinary action for not following company procedures) o impact on organisation (e.g. increased costs in resolving problems caused, loss of income if customers lose confidence)
<p>20. Threats and Security</p>	<ul style="list-style-type: none"> • the main threats to data security and how to deal with them, i.e.: o threats to data security, i.e.: <ul style="list-style-type: none"> – computer viruses – trojans – worms – phishing – spyware – adware – hacking – Denial of Service (DoS) attacks – physical threats (e.g. loss/theft of devices) o actions to minimise risks, i.e.: <ul style="list-style-type: none"> – act online in ways which reduce the risk of identity theft and protect personal security – use of protection software, i.e. firewall, anti-virus, anti-spam, data encryption to store and transfer data
<p>21. Using Automatic manual Updating</p>	<p>Using automatic and manual updating facilities for operating systems and security software.</p>