e-Quals Unit Syllabus

Level 2 ICT Principles 2

7266 - 021

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Syllabus Overview

Rationale

The aim of this unit is to provide candidates with an intermediate level of skills and knowledge to competently prepare for, and *perform a variety of system related tasks* using Information and Communication Technologies (ICT). Candidates will develop a more demanding understanding of the operation of computers and the operating system in everyday usage and the ability to work in a generally unsupervised role solving issues competently without direction.

Learning outcomes

There are **four** outcomes to this unit. The candidate will be able to:

- Prepare peripheral devices and hardware for use
- Maintain directory/folder structures
- Use the operating environment
- Identify health and safety issues and good practice

Guided learning hours

It is recommended that 60 hours should be allocated for this unit. This may be on a full time or part time basis.

Connections with other qualifications

This unit contributes towards the knowledge and understanding required for the following qualifications:

IT Users N/SVQ (iTQ) Level

Outcome	Unit
3	201 - Make selective use of IT 2
1, 2, 3, 5	202 - Operate a computer 2
1, 2	203 - IT troubleshooting for users 2
1, 2, 3	204 - IT maintenance for users 2
1, 2, 3, 4, 5	215 - Evaluate the impact of IT 2
1, 2, 3, 4, 5	217 - Use IT systems 2
1, 2, 3	218 - Use IT to exchange information 2

Assessment and grading

Assessment will be by means of a **set assignment** covering practical activities and a **multiple choice test** covering underpinning knowledge.

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Outcome 1 Prepare peripheral devices and hardware for use

Practical skills

The candidate will be able to:

1 determine the current computer configuration

2 select specific software (drivers) for use with hardware, eg: printer, speakers, VDU, mouse, keyboard

3 install input/output devices for use with applications eg: printer, speakers, VDU, mouse, keyboard

4 use suitable media/storage devices eg: hard drive, remote location (network) drive removable/portable drives and optical drives

5 set up a printer for

- a printing eg: economy mode, grey scale, colour, reverse printing
- b testing alignment
- c collating and using other media eg: envelopes, card, transparencies and labels.
- d two sided printing by eg: re-insertion, duplex printing.

Underpinning knowledge

The candidate will be able to:

1 identify the main types of computers and their uses eg: supercomputer, mainframe, mini, micro, work station, laptop, notepad, pocket pc, personal digital assistant (PDA) and mobile phones, connections to mainframes eg ATM (automatic teller machine) and their typical speeds and configurations, memory and storage sizes

2 identify the functions of input devices eg: keyboard, mouse, track ball, joystick, touch pad, touch screen, scanner, light pen, graphics tablet, microphone, digital/video cameras, disk drives and their connectors

3 identify the functions of output devices, eg: VDU, printer (including large format), speakers (including speech synthesis), projection devices and disk drives and their connectors

4 identify the features and monitor settings of colour depth, size/resolution, refresh rate, distortions and their connectors

5 identify the differences between Local Area Networks (LAN), Wide Area Networks (WAN), workstation, server, Universal Resource Locator (URL) and Internet Service Provider (ISP), intranet and Internet and their connectors. Identify analogue, digital and carrier wave formats

6 identify the protocols used for LAN, WAN, workstation, server, URL and ISP, intranet and Internet, including client server and peer to peer eg: Transfer Control Protocol/Internet Protocol(TCP/IP), File Transfer Protocol (FTP), Hypertext Transfer Protocol (HTTP)

Underpinning knowledge continued

7 identify hardware and its composition and how it affects the efficiency of the computer, eg: processor and processor speed, RAM (volatile memory), hard drive type and size, fragmentation of drives and how this affects the software to be installed

8 identify the main types of storage devices and give comparisons in terms of speed, cost and capacity eg: internal/external hard drive, optical drives, removable/portable media

9 identify precautions when handling and storing storage media

10 explain the terms GUI (Graphical User Interface) and 'user friendly'

11 explain the advantages of using software suites over integrated software

12 identify the legal issues and individual responsibilities concerning software copyright, licensing, multi licensing, copyleft and opensource

13 identify what is meant be the terms eg: 'shareware', 'try before you buy', 'freeware', 'adbandonedware', 'unsupportedware'.

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Outcome 2 Maintain directory/folder structures

Practical skills

The candidate will be able to:

1 create directories/folders and subdirectories/subfolders both locally and remotely

2 maintain directories/folders and directory structure both locally and remotely

3 within a directory/folder structure, both locally and remotely maintain subdirectories/subfolders by:

- a copying eg: copy and paste or 'ctrl' drag and drop
- b moving eg: cut and paste or drag and drop
- c rename
- d delete

4 view the attributes and properties of directories/folders and files both locally and remotely

5 recover deleted files (from the deleted files area)

6 use the search and advanced search functions to locate directories/folders and files by date, name and content both locally and remotely

7 make backup copies of directories/folders and files using appropriate software both locally and remotely.

Underpinning knowledge

The candidate will be able to:

1 identify common filename extensions used for the following types of files eg: word processing, spreadsheet, database, presentation, text, rich text, graphics, archival, multimedia and portable files eg: .png, .pdf, etc, standard file name conventions 8 plus 3, typical file size eg: rtf versus txt and compression factors

2 identify what makes an effective directory/folder structure

3 identify how to prevent the loss and corruption of data, eg: write protection, virus checking, backup procedures, protection from environmental damage, setting file attributes eg: hidden, read only.

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Outcome 3 Use the operating environment

Practical skills

The candidate will be able to:

1 use show/hide toolbars, menus, keyboard shortcuts

2 access system level help files

3 operate view and navigate functions using pointer devices, click operations, keyboard, scroll bars, zoom, magnification, whole page, print preview

4 respond to error messages and prompts

5 select a printer for use as a default printer

6 access shared data

7 configure rights of other users to own files

8 verify a computer desktop configuration eg: date and time, volume settings, desktop display settings, desktop default, display options/settings, regional settings and currency to suit a required accessibility

9 use systems tools to maintain integrity of hardware, applications and data, eg: disk checking, disk defragmentation, virus checking (where allowed).

Underpinning knowledge

The candidate will be able to:

1 explain the terms 'write protection' and 'read-only' protection

2 identify and describe the advantages and disadvantages of networking computers

3 identify and describe methods of maintaining confidentiality and privacy over a network

4 identify and describe the difference between local resource and remotely stored / shared resource

5 identify and describe the advantages and disadvantages of using a screen saver

6 explain the term 'multi-tasking' and how it can be used.

7 explain the differences in transmissions speeds, signal degradation and the pro's and con's associated with the various connection types eg: modem/broadband, cable/wi-fi, USB, USB2, firewire 400, firewire 800.

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Outcome 4 Identify health and safety issues and good practice

Practical skills

The candidate will be able to:

1 maintain and use a safe working environment and equipment for self and others eg: storage of consumables, cabling

2 use safe working practices at all times eg: operating procedures for visual safety, ergonomics for positional safety, lifting & handling for physical safety

3 identify and report any faults or hazards eg: equipment, fixtures or fittings.

Underpinning knowledge

The candidate will be able to:

1 identify what creates a good working environment (ergonomics) and good practice eg:

- a frequent breaks away from the computer
- b correct positioning of screens, chairs, keyboards and vdu's
- c suitable lighting and ventilation

2 identify good health and safety precautions eg:

- a power cables are safely secured
- b power points are not overloaded
- c transit routes/areas are clear

3 identify injuries common in a bad working environment due to poor usage eg:

- a repetitive strain injury (RSI)
- b eye strain
- c bad posture

4 identify cleaning precautions related to ICT equipment

5 identify what constitutes a hazard and what action should be taken eg: active, passive, armed and dormant.

Unit record sheet

Use this form to track your progress through this unit.

Tick the boxes when you have covered each outcome. When they are all ticked, you are ready to be assessed.

Outcome	✓	Date
1 **Prepare peripheral devices and hardware for use**	☐	
2 **Maintain directory/folder structures**	☐	
3 **Use the operating environment**	☐	
4 **Identify health and safety issues and good practice**	☐	

Candidate Signature ..... **Date** .....

City & Guilds Registration Number .....

Quality nominee (if sampled) ..... **Date** .....

Assessor Signature ..... **Date** .....

External Verifier Signature (if sampled) ..... **Date** .....

Centre Name ..... **Centre Number** .....

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