Unit Syllabus

Level 1 Fundamentals of computing systems and customer care

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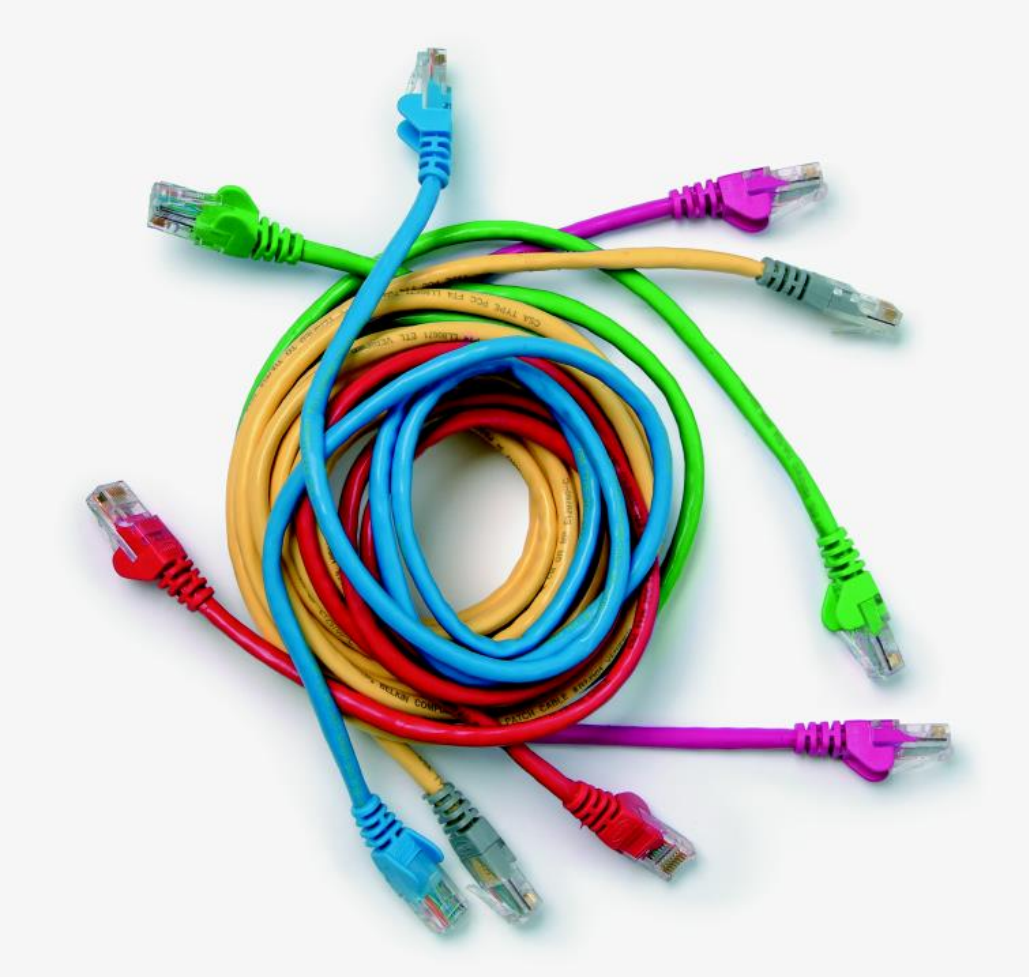

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Unit 107 Fundamentals of computing systems and customer care

Rationale

This unit will allow candidates the opportunity to enter the PC support environment. Candidates will learn various aspects of computer technology. This will aid the development of skills required for job roles related to PC Support and customer care. Candidates will explore aspects of the technical issues related to home computers as well as business systems.

Learning outcomes

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

- Identify functions of components of a personal computer system
- Briefly explain Health and Safety and Environmental related issues including disposal of used parts
- Undertake customer care fundamentals
- Identify software to protect home and business computers from security issues

Guided learning hours

It is recommended that 45 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 elements of NVQ(s) at level 1

Assessment and grading

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

Unit 107 Fundamentals of computing systems and customer care

Outcome 1 Identify functions of components of a personal computer system

Practical activities

The candidate will be able to:

1 identify use of components that make up a PC
- a case (Desktop, Mini, Midi, Tower)
- b hard drive (IDE, SCSI, SATA)
- c CD/DVD/CDRW drive
- d floppy disk drive
- e motherboard
- f processor
- g memory
- h graphics card
- i sound card
- j modem/NIC
- k memory
- l monitor (LCD, CRT)
- m keyboard
- n mouse
- o cables
- p back-up media (USB Drive, ZIP/Tape Drive)

2 connect peripherals for a specific purpose
- a monitor
- b printer
- c scanner
- d web cam
- e digital camera
- f joystick/game pad
- g graphic tablet
- h speakers
- i microphone

3 Install an operating system on a personal computer

Practical activities continued

4 install a variety of application software on a personal computer eg

- a Office application eg Microsoft Office
- b anti-virus software
- c a software firewall
- d Anti-Spyware
- e Anti-Malware
- f digital Imaging

Underpinning knowledge

The candidate will be able to:

1 state differences between a PC for home use and a PC for business use

2 identify the difference between hardware and software

3 state the function of various components that make up a PC, eg

- a input Devices (Keyboard, Mouse, CD/DVD/CDRW/Floppy disk drive, etc)
- b output devices (LCD/CRT Monitor, Inkjet/laser printer, etc)
- c storage media (IDE/SCSI/SATA Hard drive, USB Drive, ZIP/Tape Drive)
- d processing components (CPU, Graphics card, Sound card, Modem/NIC)
- e case (desktop, mini, midi, tower)
- f motherboard
- g memory

4 identify hardware and peripherals suitable for a PC for a specific purpose

- a monitor
- b printer
- c scanner
- d web cam
- e digital camera
- f joystick/game pad
- g speakers
- h microphone
- i Uninterruptible Power Supply (UPS)

5 identify operating systems and application software to suit different requirements

6 state problems that could be encountered while installing a PC

- a damaged parts
- b wrong parts
- c incompatible parts
- d customer dissatisfaction
- e power supply location
- f location of Internet connection
- g unsuitable environment (glare, very hot, very cold, very dusty etc)

Unit 107 Fundamentals of computing systems and customer care

Outcome 2 Briefly explain Health and Safety and Environmental related issues including disposal of used parts

Practical activities

The candidate will be able to:

1 demonstrate safe handling techniques for:
   a ESD sensitive PC components
   b electrical cables/sockets
   c sharp edges
   d various tools and equipment
2 demonstrate safe lifting and manual handling techniques for various peripherals
3 identify the correct type of fire extinguisher for use on an electrical fire eg CO_2, powder
4 show examples of good practice in relation to
   a sitting in front of a PC
   b monitor glare and ambient lighting
   c using keyboard and mouse
   d injuries caused by repeated use of a PC
5 demonstrate use of anti-static control equipment eg wrist strap and table mat.
6 Pack and unpack PC components eg Memory, CPU, motherboard
7 give examples of good practices related to COSHH
8 demonstrate knowledge of the correct disposing of items eg
   a CMOS battery
   b CD/DVD Drive
   c Toner cartridge
   d CRT monitor
   e hard Disk Drive
9 identify if the correct mains fuse is fitted to various peripherals eg
   a printer
   b monitor
   c central Processing Unit (CPU)

Underpinning knowledge

The candidate will be able to:

1 identify why Health and Safety is important

2 briefly describe principal requirements of COSHH

3 identify Health and Safety factors related to electrical voltages

4 identify static electricity and Health and Safety issues related to ESD

5 identify best practice in relation to body ergonomics, strain injuries and screen radiation when using a PC

6 state employees' responsibilities under the current Health and Safety legislation

7 list safe use of different types fire extinguishers eg water, foam, CO2, powder

8 state the need for PAT testing

9 state the correct fuse rating for a given peripheral

10 list common safety factors for disassembling and building a PC

- a electrical hazards
- b ESD
- c sharp edges
- d manual handling
- e using tools
- f cables (including fibre optics)

11 briefly state the requirements for disposing of used parts according to the current recycling legislation

Unit 107 Fundamentals of computing systems and customer care

Outcome 3 Undertake customer care fundamentals

Practical activities

The candidate will be able to:

1 identify customer needs and requirements for a specific task eg software faults, hardware faults, installation upgrade, maintenance and repair

2 identify standard customer care situations that should be escalated eg insufficient technical knowledge, unavailable parts, complaints

3 deal with various kinds of customers eg

- a happy
- b annoyed
- c know it all
- d arrogant
- e angry

4 use questioning techniques such as open and closed questions

5 work in teams on a set customer care task using effective communication

6 give a short presentation to show the importance of

- a appearance
- b speech
- c confidence
- d knowledge

Underpinning knowledge

The candidate will be able to:

1 state the importance of customer care

2 state different ways of dealing with various kinds of customers

3 identify different questioning techniques eg following a prepared fault finding script

4 identify effective ways for handling customer complaints eg when to escalate a problem

5 list the benefits of teamwork for a successful business eg good communication between the team members

6 state how personal appearance, attitude and time management affects your work

7 state methods of capturing customer feedback and comments of work completed eg customer satisfaction survey

Unit 107 Fundamentals of computing systems and customer care

Outcome 4 Identify software to protect home and business computers from security issues

Practical activities

The candidate will be able to:

1 identify various types of software licence agreements
   a Freeware
   b Shareware
   c evaluation
2 identify different software licence types
   a single user
   b multi user
   c site licence
3 list and carry out software checks to be done before installing software on a customer's PC
4 install an anti-virus program
5 run the anti-virus program and scan the hard disk
6 schedule the anti-virus scanner to update automatically
7 install and setup a firewall
8 demonstrate ability to choose correct back-up media
9 demonstrate ability to back-up and restore data

Underpinning knowledge

The candidate will be able to:

1 state the importance of Data Security
2 state the basic requirements of the current Data Protection Act
3 briefly outline problems related to computer viruses and how to protect systems from them
4 identify various types of viruses and other malware eg Trojan Horse, Worms, hoax, etc
5 state the main issues related to spyware and ad-aware programs and how to protect systems from them
6 state the importance of maintaining up-to-date anti-virus and anti-spyware identities
7 identify the importance of maintaining system back-ups
8 state the importance of firewalls and their use
9 identify the basics of software licensing and copyright issues
10 state physical methods that can be used to secure systems eg door locks, keyboard locks

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 Identify functions of components of a personal computer system	☐	
2 Briefly explain Health and Safety and Environmental related issues including disposal of used parts	☐	
3 Undertake customer care fundamentals	☐	
4 Identify software to protect home and business computers from security issues	☐	

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

City & Guilds Registration Number .....

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

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

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

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