Systems and Principles Unit Syllabus

Level 3 Install, configure and upgrade ICT software

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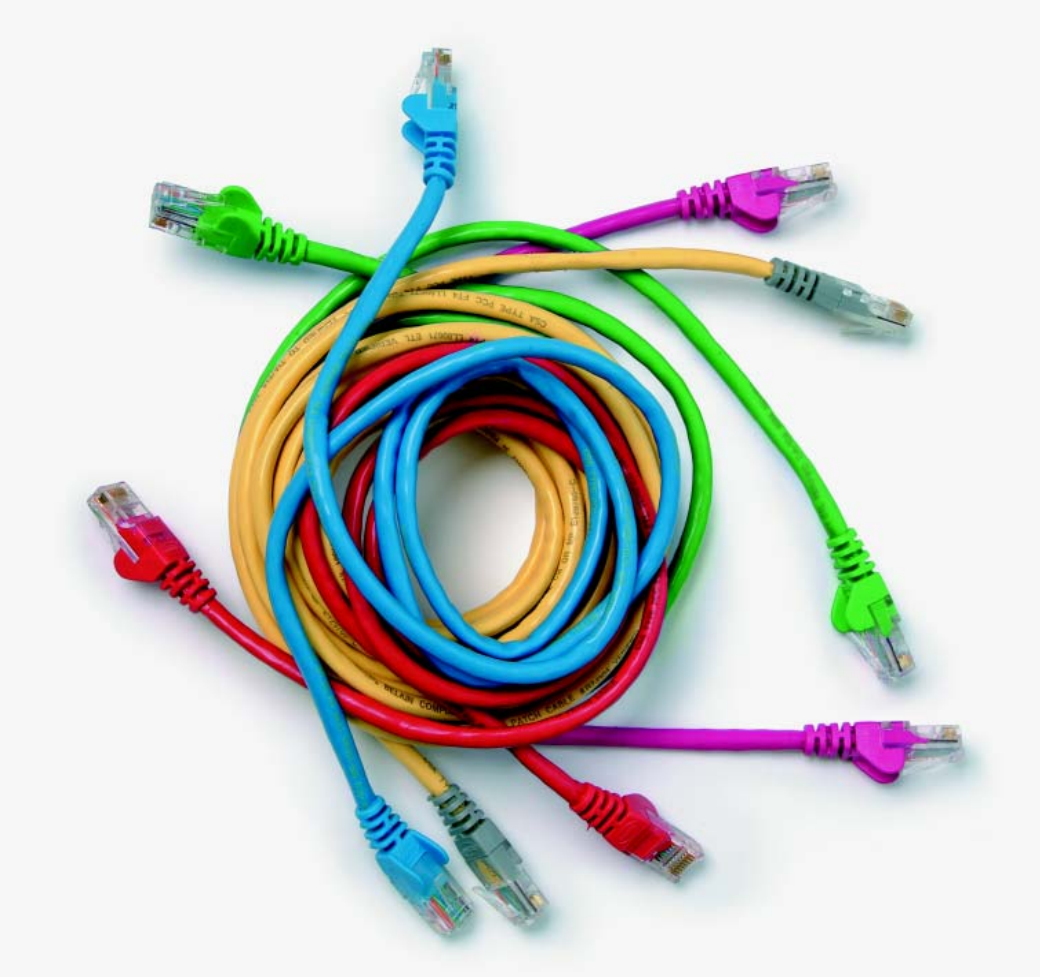

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Unit 362 Install, configure and upgrade ICT software

Syllabus Overview

Unit accreditation number **L/501/3997**

Credit value **7**

Rationale

This unit will enable the candidate to install, configure and upgrade networked and stand-alone operating systems, and/or applications software.

Learning outcomes

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

- Prepare for the installation of software
- Install and configure a range of system and application software
- Check the system operates as planned during and after installation of system and application software
- Resolve unwanted changes to the system caused by installation and configuration of system and application software

Guided learning hours

It is recommended that **30** 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 to the learning outcomes and assessment criteria for the Level 3 Diploma in ICT Professional Competence.

Assessment and grading

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

Unit 362 Install, configure and upgrade ICT software

Outcome 1 Prepare for the installation of software

Practical activities

The candidate will be able to:

1 assemble information and prepare plans for software installation, eg
   - a current operating system version (updates and configurations)
   - b hardware requirements
   - c compatibility issues
   - d current software
   - e correct installation method (eg clean install, install over old version)
   - f required configuration of new software
   - g test regime for new installation

2 determine the specification and configuration of one or more systems using different methods, eg
   - a BIOS setup
   - b system properties
   - c third-party utilities
   - d existing records

3 check that resources required for installation are available and that they are suitable, eg
   - a installation media
   - b utility disks
   - c blank disks
   - d back-up systems
   - e optical disks
   - f manufacturers' documentation
   - g registration details
   - h systems
   - j storage devices
   - k network or Internet resources

4 confirm that the system meets the requirements of the new software

5 perform a back-up and scan for viruses and spyware

Practical activities continued

6 record the specification of the existing system, eg
   a exact version and release number of the existing operating system including
      i installed service packs
      ii updates
      iii patches installed
   b exact hardware details, performance and configuration
   c complete list of all installed and/or enabled software applications including
      i version and release numbers
      ii installed service packs
      iii updates
   c known fault history.

Underpinning knowledge

The candidate will be able to:

1 describe the type of action which should be included in a software installation plan, eg
   a agree details with the customer/user
   b verify licensing details
   c confirm compatibility with the existing system
   d confirm configuration requirements with the customer/user
   e arrange access/down time as necessary
   f carry out back ups as necessary
   g install software
   h record details, eg
      i version number
      ii license number
      iii installation date
      iv configuration settings, etc
   j test the software to ensure correct function
   k demonstrate the software and train users as required
2 describe sources of installation media or files, eg
   a network software pool
   b FTP (File Transfer Protocol) site
   c ICT services department supervisor
   d software supplier/publisher (CD-ROM or FTP site)
3 explain the importance of protecting existing software and data

Underpinning knowledge continued

4 outline regulations relating to software licensing and installation, eg
   a Copyright Designs and Patents Act 1988 (as amended)
   b Berne Convention
   c Universal Copyright Convention
   d GNU General Public License

5 describe the items commonly found in a manufacturer's minimum system requirement, eg
   a operating system
   b processor
   c RAM size
   d free hard disk space
   e monitor settings, eg
      i resolution
      ii refresh rate
   f mouse type
   g drives, eg
      i optical etc
      ii HDD capacity
   h other requirements, eg sound card, Internet etc

6 list items which need to be backed-up prior to software installation, and the reasons for each eg
   a registry
   b previous version of software (if available)
   c data associated with existing software version
   d mission-critical data
   e other software that may be affected

7 describe incompatibilities that can exist between software and systems (hardware and operating system) eg
   a processor type
   b pre-installed software
   c version incompatibilities
   d file associations
   e driver issues.

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Outcome 2 Install and configure a range of system and application software

Practical activities

The candidate will be able to:

1 install system and application software from
   a removable storage media, eg portable hard drive, CD-ROM, DVD
   b fixed storage media, eg installation files downloaded to hard disk from a network server, either LAN or WAN, eg Internet
   c a network server, eg install over a network

2 install different types of system and application software
   a system software, eg operating system/network operating system or components
   b applications software, eg integrated suites, individual application, word processors, spreadsheets, email, browsers
   c utility software, eg anti-virus/spyware, system tools, system monitors, disk-checkers

3 upgrade existing system and application software

4 install system and application software to specified destinations using different installation options
   a default
   b custom (to individual requirements)

5 configure installed system and application software to user requirements, eg
   a creation of personal profiles
   b creation of user accounts
   c system settings
   d shared folders/access
   e user/group rights/permissions
   f passwords

6 maintain registration documentation and/or installation records

7 perform an automated deployment of a software application.

Underpinning knowledge

The candidate will be able to:

1 identify data required to comply with system and application software regulations, eg
   - a company details
   - b licence numbers
   - c product identification codes
   - d name of person to hold registration

2 identify different types of installation media, eg
   - a disk (CD/DVD, portable hard drive)
   - b FTP site
   - c network software pool

3 describe how types of installation media affect installation process, eg
   - a download times
   - b effects on network users

4 identify the correct order for loading different types of system and application software, eg
   - a CD-ROM device driver
   - b operating/network operating system
   - c operating/network operating system upgrades/patches
   - d application software
   - e application software upgrades/patches

5 describe sources of manufacturers' information specific to the installation process, eg
   - a guides
   - b manuals
   - c documentation
   - d read me files
   - e online sources
   - f websites and forums
   - g customer help lines and helpdesks
   - h telephone support

6 explain why custom locations may be required, eg
   - a disk partitions
   - b non-typical storage locations
   - c organisational requirements
   - d user accounts
   - e shared folders/access
   - f user/group rights/permissions
   - g passwords

7 explain why different installation options may be required, eg

- a full
- b limited
- c custom

8 describe the procedures for registering different types of system and application software, eg

- a freeware
- b shareware
- c proprietary

9 explain the difference(s) between an upgrade and a full installation

10 describe the process of automatically deploying a software application to multiple clients across a network.

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Outcome 3 Check the system operates as planned during and after installation of system and application software

Practical activities

The candidate will be able to:

1 monitor the installation of software, identifying any problems and errors, and taking action to resolve them

2 check that the installed system and application software operates as expected upon completion of installation

3 check the entire system operates as expected after system and application software installation

4 record problems/errors encountered and actions taken.

Underpinning knowledge

The candidate will be able to:

1 describe the types of problems and errors, and their effects, which can arise during the installation of software, eg

- a insufficient memory
- b cannot find a file
- c file(s) already exist
- d older version of application already installed
- e corrupted application files
- f existing data corruption
- g operating system (version) will not support application
- h application conflicts with another application/function
- j application will not install

2 describe the types of actions which may be required to resolve problems and errors, eg

- a restart processes or systems
- b replace defective media
- c respond to alert and dialogue boxes

3 identify checks which can be performed to confirm successful installation of system and application software, eg

- a self test facility
- b run software, testing functions with standard data to confirm accuracy
- c test using diagnostic and performance monitoring software
- d stress/soak test for an extended period

4 describe the types of changes to the system which may occur as a result of system and application software installation, eg changes to

- a start-up sequence
- b menus
- c desktop
- d display
- e error messages

5 identify possible changes to system performance after installation, eg

- a system speed
- b system boot time
- c system stability
- d memory usage
- e system security

6 explain the importance of maintaining accurate records of installation.

7 explain that effective planning and meeting business requirements can improve customer satisfaction.

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Outcome 4 Resolve unwanted changes to the system caused by installation and configuration of system and application software

Practical activities

The candidate will be able to:

1 identify, document and take actions to correct unwanted changes to system operation, eg
   - a change default settings
   - b alter user profiles
   - c reconfigure other, associated software

2 identify, document and take actions to correct unwanted changes to system performance, eg
   - a alter file management
   - b adjust memory allocation
   - c increase memory
   - d adjust data compression

3 make changes, as identified, to the software installation and configuration

4 check that the changes have improved system operation and performance

5 record any unwanted changes, recommendations, actions taken and results.

Underpinning knowledge

The candidate will be able to:

1 describe types of unwanted changes that may occur to system operation and performance as a result of system and application software installation, eg
   - a system slows down
   - b system less stable (more crashes)
   - c more system errors
   - d less memory available
   - e data corruption
   - f system more difficult to manage and control
   - g reduction in system security

2 describe practical methods to correct unwanted effects on a system caused by software installation, eg
   - a reconfiguration
   - b reinstallation
   - c uninstall
   - d restoring default settings from back ups or hardware changes.

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 for the installation of software	☐	
2 Install and configure a range of system and application software	☐	
3 Check the system operates as planned during and after installation of system and application software	☐	
4 Resolve unwanted changes to the system caused by installation and configuration of system and application software	☐	

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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