



Technical and Vocational Education and Training (TVET) Council



Occupational Standards of Competence

Using Information Communication Technology

Level 3

#7, “Chelwood”, 8th Avenue, Belleville, St. Michael, Barbados

Telephone: (246) 435-3096 Fax: (246) 429 2060 E-mail: office@tvetcouncil.com.bb.
(246) 228-3383/84

U43303:**Make Selective Use of ICT**

Unit Descriptor:

This unit is suitable for you if your work involves working out how to use ICT for technically complex tasks (e.g. creating an illustrated newsletter, doing a cost benefit analysis, reporting the results of a survey about clients' needs and preferences or creating an interactive website).

At the end of this unit you will be able to:

Work out how to use ICT effectively for technically complex tasks and purposes, taking account of your own skills and capabilities and the needs of the organisation.

ELEMENT**PERFORMANCE CRITERIA**

To be competent you must achieve the following:

1. Make selective use of ICT

Analyse (Use of ICT)

1.1 Analyse the appropriateness and effectiveness of decisions and actions taken about the choice and use of **software tools and techniques**, in relation to the task or purpose involved.

1.2 Analyse the impact own work could have on other people or the organisation.

Find and evaluate

1.3 Identify changes that could make similar tasks and purposes easier or more effective.

1.4 **Verify information** for the use of ICT.

1.5 Help others to find and evaluate information on the selected ICT.

Organise

1.6 Use the full range of ICT software tools and techniques to structure information to suit complex tasks and different audience needs.

Review

1.7 Review own skills, knowledge and understanding, and share with others.

- 1.8 Evaluate feedback given on work produced and take steps to improve any weaknesses.

RANGE STATEMENT

You must cover the items below:

A. Verify information for:

- (i) relevance
- (ii) bias
- (iii) validity
- (iv) reliability
- (v) sufficiency

UNDERPINNING KNOWLEDGE AND SKILLS

You need to know and understand

Purposes

1. What changes could be made to the way the ICT systems and software are used to make tasks that are similar, easier and effective in the future.

Software tools and techniques

2. How to generate results that communicate effectively, by structuring the content to take account of different contexts and audience needs.

Terms for ICT

3. What ICT terms others may find difficult to understand.
4. How to explain ICT terms simply to others.

EVIDENCE GUIDE

For assessment purposes:

(1) Critical Aspects of Evidence

You will need to produce at least **five (5) substantial and complex tasks**.

Your evidence must show that you have met **all** the performance criteria, range and underpinning knowledge and skills requirements.

A. Verify information for:

- (i) relevance
- (ii) bias
- (iii) validity
- (iv) reliability
- (v) sufficiency

Demonstrate skills and techniques from at least two of the optional units you have chosen.

(2) Methods of Assessment

Observation by your assessor of you:

- Explaining why a software package is used for a particular type of job, and whether or not it is effective.
- Developing techniques for evaluating any information that is sourced and getting and determining whether or not it is genuine, valid, unbiased and reliable, and whether there is actually enough for you to use.

Answers to written or oral questions from your assessor.

(3) Context of Assessment

Your evidence may come from activities in your workplace and/or from simulation.

U43403: Operate a computer system

Unit Descriptor:

This unit is suitable for you if your work involves the installation of upgrades to hardware, operating systems and software safely; and getting the best out of software for complex tasks.

At the end of this unit you will be able to:

Obtain the most effective performance out of different types of hardware, software and storage media.

ELEMENT**PERFORMANCE CRITERIA**

To be competent you must achieve the following:

1. Operate a computer system

Set up

- 1.1 **Connect** a computer to other hardware and storage media safely.

Access

- 1.2 **Access** remote networks and network software.

Storage media

- 1.3 Select the most suitable and efficient method and media for storing and transferring data.

- 1.4 Take account of data transmission speeds.

Software tools and techniques

- 1.5 Choose and use a wide range of **tools and techniques** to make the most of different types of software.

Install

- 1.6 **Install** other hardware and computer components correctly.

- 1.7 **Install** operating system upgrades correctly.

Customise

- 1.8 Customise menus and toolbars in most types of software.

RANGE STATEMENT

You must cover the items below:

A. Connect:

- (i) a workstation to a network
- (ii) commonly used peripherals to a stand-alone computer
- (iii) common connector types

B. Access:

- (i) commonly used storage devices
- (ii) a local area network (LAN)
- (iii) a wide area network (WAN)
- (iv) a remote network

C. Choose tools and techniques:

- (i) dialog boxes
- (ii) toolbars
- (iii) buttons
- (iv) icons
- (v) folder or directories

D. Install:

- (i) peripheral device
- (ii) computer components
- (iii) operating systems
- (iv) operating system upgrades

UNDERPINNING KNOWLEDGE AND SKILLS

You need to know and understand:

Types of computer hardware

1. How to choose, use and connect appropriate combination of hardware.

Tools and functions

2. How to exploit the capabilities of most of the tools and functions of software applications.

Health and safety issues

3. How to explain safety and health risks to others.
4. What action can be taken to avoid health and safety risks to other people and hardware.

Security risks

5. What are the risks to computers and computer networks linked to the internet.

Compatibility

6. What compatibility issues may be caused by the interaction of hardware, software and operating systems.
7. How to avoid compatibility issues.

Data transmission speed

8. What are the different data transmission speeds and how much data transmission speeds vary
9. What effect variations have on different ways of transmitting, receiving and saving data.

Laws and guidelines

10. What legislation (e.g. Computer Misuse Act, 2005 - 4) and guidelines effect day-to-day use of ICT such as data protection, equal opportunities, disability, health and safety, copyright and guidelines set by your employer or organisation.

EVIDENCE GUIDE

For assessment purposes:

(1) Critical Aspects of Evidence

You will need to produce **at least four (4) comprehensive tasks**

Your evidence must show that you have met **all** the performance criteria, range and underpinning knowledge and skills requirements.

A. Connect:

- (i) a workstation to a network
- (ii) commonly used peripherals to a stand-alone computer.
- (iii) common connector types

B. Access:

- (i) commonly used storage devices
- (ii) a local area network (LAN)
- (iii) a wide area network (WAN)
- (iv) a remote network

C. Choose tools and techniques:

- (i) dialog boxes
- (ii) toolbars
- (iii) buttons
- (iv) icons
- (v) folder or directories

D. Install :

- (i) peripheral device
- (ii) computer components
- (iii) operating systems
- (iv) operating system upgrades

(2) Methods of Assessment

Observation by your assessor of you:

- Taking a collection of items of hardware (base unit, monitor, keyboard etc) and connecting them up to form a working system. You will be expected to be able to use the common connector types. USB, RJ45, PS/2 etc., and to connect them without damage.

- Installing software such as a driver and configuring associated software.
- Accessing remote networks (e.g. the Internet, Virtual Private Networks etc) and using network software, i.e., software not installed on your own workstation, but on a remote server.
- Showing that you can use a wide range of software tools and techniques to get the best out of your software.
- Selecting storage media which is suitable to accommodate different transmission speeds, i.e., for broadband, USB1 and USB2, Firewire, ordinary dial-up modems.
- Customising most types of software.

Answers to written or oral questions from your assessor.

(3) Context of Assessment

Your evidence may come from activities in your workplace and/or from simulation.

U24101: Maintain a safe and healthy ICT working environment

Unit Descriptor:

The basis of safety and health legislation is the Safety and Health at Work Act, 2005 – 12. The Act sets out the general duties that employers have towards employees and members of the public, and employees have to themselves and to each other.

At the end of this unit you will be able to:

Comply with relevant Safety & Health requirements and Policies in the workplace and check your own working practices and work area for any risk of you or others being harmed. Recognise the risk arising from any hazards you have identified and know which you can deal with safely yourself, and those you must report to the ‘responsible person’ for attention.

Show you have taken steps to reduce those safety and health risks with which you might come into contact during the course of your work in accordance with instructions and workplace requirements.

ELEMENT

PERFORMANCE CRITERIA

To be competent you must achieve the following:

1. Maintain a safe and healthy ICT working environment

Safety and Health Regulations and Requirements

- 1.1 Comply with organisational Safety and Health regulations.
- 1.2 Name correctly and locate the persons responsible for safety and health in the workplace.
- 1.3 Carry out your working practices in accordance with legal requirements.

Safety and health risks

- 1.4 Identify those aspects of the workplace which present a health or safety risk and could harm yourself or other persons.
- 1.5 Report to the persons responsible for those hazards which present a high **risk** to safety and health in the workplace.

- 1.6 Rectify those safety and health risks within your capability and the scope of your job responsibilities.

Safety and health workplace policies

- 1.7 Identify which workplace policies are relevant to your working practices.
- 1.8 Show that your personal conduct in the workplace does not endanger the safety and health of yourself or other persons.
- 1.9 Follow the **workplace policies** and suppliers' or manufacturers' instructions for the safe use of equipment, and materials.
- 1.10 Prepare a **personal Statement** on how a safe and healthy ICT work environment is maintained.

Safety & Health Regulations and requirements

- 1.11 Report any differences between workplace policies and suppliers' or manufacturers' instructions as appropriate.
- 1.12 Follow safety and health regulations and organizational procedures in the event of a fire or event requiring evacuation

Ergonomic principles

- 1.13 Practice ergonomic principles so as to avoid poor work habits which contribute to musculoskeletal disorders for many people who spend long hours seated at a computer.

RANGE STATEMENT

You must cover the items below:

A. Follow regulations and requirements

- i. manufacturer
- ii. organisation
- iii. legislation

B. Recognise risks resulting from:

- i. the use and maintenance of machinery or equipment
- ii. working practices which do not conform to laid down policies.
- iii. unsafe behaviour
- iv. accidental breakages and spillages
- v. environmental factors

C. Follow Workplace policies covering:

- i. the use of safe working methods and equipment
- ii. the safe use of hazardous substances
- iii. smoking, eating, drinking and drugs
- iv. what to do in the event of an emergency
- v. personal presentation

D. Avoid poor work habits:

- i. wrists misaligned or excessive force used with a keyboard
- ii. poor posture used with an incorrect seating height
- iii. a monitor incorrectly positioned, resulting in eye strain and vision problems
- iv. inappropriate lighting, causing glare on monitors and other work surfaces

UNDERPINNING KNOWLEDGE AND SKILLS

To ensure that your actions reduce risks to safety and health, you should know and understand the following aspects of safety and health legislation:

1. Why it is important to comply with health and safety regulations
2. Your legal duties for safety and health in the workplace as required by the Safety and Health at work Act, 2005-12.
3. Your duties for safety and health as defined by any specific legislation covering your job role.
4. What hazards may exist in your workplace and the difference between a hazard and a risk.
5. The harmful effects of electricity.
6. The improper use of equipment such as:
 - Display screens
 - Systems unit and its peripherals
7. The particular safety and health risks which may be present in your own job role and the precautions you must take.
8. The importance of remaining alert to the presence of hazards in the whole workplace.
9. The importance of dealing with or promptly reporting risks.
10. The requirements and guidance on the precautions.
11. Agreed workplace procedures relating to controlling risks to safety and health.
12. Responsibilities for safety and health in your job description.
13. The responsible persons to whom to report safety and health matters.
14. The importance of personal presentation in maintaining safety and health in the workplace.
15. The importance of personal conduct in maintaining the safety and health of yourself and others.
16. Workplace procedures for handling risks which you are unable to deal with.

EVIDENCE GUIDE

(1) Critical Aspects of Evidence

You will need to produce **at least two comprehensive tasks**. The evidence may come from activities in your workplace and/or from simulation.

1. Performance evidence for this unit will be assessed while demonstrating competence in other units. The performance evidence selected must be provided against each of the performance criteria of this unit and should be the primary source of evidence, but this will often be supported by questioning or other forms in order to gather evidence of your ability to perform competently across all the range items listed. This performance evidence must be provided from real working practice. In order to demonstrate competence you must be able to show consistent competent performance.
2. The assessor must see performance evidence for each of the range items appropriate to your own workplace context. Performance evidence must show from the range that you have:
 - Identified a minimum of **two** types of **risks** listed:
 - i. Manufacturers
 - ii. Organisation
 - iii. Legislation
 - Identify a minimum of **four workplace policies**.
3. The assessor will need to be satisfied that you have the necessary knowledge and understanding to perform competently in respect of all the range items listed in this unit. Answers to questions and other forms of evidence may additionally be used to demonstrate an understanding of the essential knowledge required for the unit, and for the specific knowledge required.
4. Your performance evidence should show that you are able to comply with regulations.

Your evidence must show that you have met all the performance criteria, range and underpinning knowledge requirements.

(2) Methods of Assessment

Typical task size:

Observation of you by your assessor:

1. Practicing health and safety when completing ICT tasks in the work place.
2. Complying with the following when completing ICT tasks in the work place:
 - i. Manufacturers guidelines
 - ii. Health and safety guidelines
 - iii. Organisation rules
 - iv. Legislation

Answers to written or oral questions from your assessor.

Personal statement on how you maintain a safe and healthy ICT working environment.

(3) Context of Assessment

Your evidence may come from activities in your workplace and/or from simulation.

U43503: Produce document using word processing software

Unit Descriptor:

This unit is suitable for you if you are likely to be in a role which involves customizing and automating tools and techniques to produce documents (e.g. newsletters, journals, letters, envelopes, address labels and related reports and documents).

At the end of this unit you will be able to:

Use word processing software efficiently to produce related documents that communicate effectively and accurately.

ELEMENT

PERFORMANCE CRITERIA

To be competent you must achieve the following

1. Use Word Processing Software

Create files

- 1.1 Use appropriate techniques to create, organise and save files.

Combine information

- 1.2 Use advanced techniques for **combining** or merging versions of information.

Import

- 1.3 Create documents with information **imported** from a different type of software.

Export

- 1.4 Create information to be **exported** to a file that can be used by different types of software.
- 1.5 Make references to external data.

Edit text

- 1.6 Use advanced **editing techniques** appropriately.

Format documents

- 1.7 Format word processing documents using appropriate tools and techniques for creating different document **breaks**.

Layout

- 1.8 Use appropriate **layout options** and techniques for creating, editing and formatting complex **tables**.
- 1.9 Create suitable templates.
- 1.10 Change document structure

Check document

- 1.11 Check that structure, style and formatting are used to aid clarity in the document.

Improve efficiency

- 1.12 Customise menus and toolbars.
- 1.13 Automate common tasks by using macros.

RANGE STATEMENT

You must cover the items below:

A. Combine information:

- (i) hyperlinks
- (ii) object linking
- (iii) embedding

B. Imported information:

- (i) a spreadsheet graph into a word processing document
- (ii) text into an image file
- (iii) picture into a presentation file
- (iv) simple information from a database onto a website
- (v) mail merge

C. Exported information:

- (i) a spreadsheet graph into a word processing document
- (ii) text into an image file
- (iii) picture into a presentation file
- (iv) simple information from a database onto a website
- (v) mail merge

D. Editing techniques for:

- (i) sorting
- (ii) merging a data source with a main document
- (iii) mail merge
- (iv) changing security
- (v) authoring tools

E. Create different Breaks to:

- (i) sections
- (ii) styles
- (iii) columns
- (iv) pages

F. Use layout options for:

- (i) headings
- (ii) footnotes
- (iii) bookmarks
- (iv) watermarks
- (v) captions
- (vi) numbered paragraphs
- (vii) indexes
- (viii) table of content

G. Use **tables**:

- (i) convert text to tables
- (ii) tables to text

UNDERPINNING KNOWLEDGE AND SKILLS

You need to know and understand:

Produce information

1. How to produce information that communicates effectively, by structuring the content to take account of different context and audience needs.

Word processing documents

2. How to produce word processing documents which are complex in terms of content and meaning as well as the understanding, skills and techniques needed to produce them.

EVIDENCE GUIDE

For assessment purposes

(1) Critical Aspects of Evidence

You will need to produce at least **three (3) substantial and complex** tasks.

Your evidence must show that you have met **all** the performance criteria, range and underpinning knowledge skills requirements.

A. Combine information:

- (i) hyperlinks
- (ii) object linking
- (iii) embedding

B. Imported information:

- (i) a spreadsheet graph into a word processing document
- (ii) text into an image file
- (iii) picture into a presentation file
- (iv) simple information from a database onto a website
- (v) mail merge

C. Exported information:

- (i) a spreadsheet graph into a word processing document
- (ii) text into an image file
- (iii) picture into a presentation file
- (iv) simple information from a database onto a website
- (v) mail merge

D. Editing techniques for:

- (i) Sorting
- (ii) Merging a data source with a main document
- (iii) Mail merge
- (iv) Changing security
- (v) Authoring tools

E. Create different Breaks to:

- (i) Sections
- (ii) Styles
- (iii) Columns
- (iv) Pages

F. Use Table options:

- (i) Convert text to tables
- (ii) Tables to text

G. Use **layout** options for:

- (i) Headings
- (ii) Footnotes
- (iii) Bookmarks
- (iv) Watermarks
- (v) Captions
- (vi) Numbered paragraphs
- (vii) Indexes
- (viii) Table of content

Use **Table** options:

- (i) Convert text to tables

Tables to text

(2) Methods of Assessment

Observation by your assessor of you:

- Combining information
- Editing, formatting and checking text
- Creating, editing and formatting tables
- Using sections in a document
- Using different layout options
- Using macros to improve efficiency
- Checking text in related documents

Work products, e.g., a letter or information sheet etc. produced to specifications.

Answers to written or oral questions from your assessor.

(3) Context of Assessment

Your evidence must be the result of real work activities undertaken by yourself in your workplace or it may come from simulation.

U43603: Use ICT to exchange information

Unit Descriptor:

This unit is suitable for you if your work involves making the most of advance e-mail facilities, such as setting up automatic redirection, using encryption and dealing with junk e-mail.

At the end of this unit you will be able to:

Use the full potential of e-mail software facilities and browser software.

ELEMENT

PERFORMANCE CRITERIA

To be competent you must achieve the following:

1. Connect to exchange information

Connect

- 1.1 Connect **equipment**.
- 1.2 Connect **cabling**.
- 1.3 Assign user rights and privileges.

2. Send and receive information

Send and receive

- 2.1 Choose and use the most appropriate method of accessing e-mail.
- 2.2 Arrange for received e-mails to be re-directed to specific **e-mail boxes/accounts**.
- 2.3 Use **advanced settings** within e-mail software.

Exchange information

- 2.4 Choose and use an appropriate **method for exchanging real time information**.
- 2.5 Adjust the format of information to make it easier to exchange.

RANGE STATEMENT

You must cover the items below:

- A.** Connect **equipment** to:
- (i) network ports
 - (ii) internet ports
- B.** Connect **cabling** to:
- (i) network/Internet cable
 - (ii) telephone cable
- C.** Use **advanced settings** to:
- (i) managing e-mail accounts
 - (ii) manage junk e-mail/spam
- D.** Choose method for **exchanging real time information**:
- (i) electronic live chat video and sound facilities
 - (ii) VOIP (Voice Over Internet Protocol)
 - (iii) electronic chat facilities
 - (iv) virtual meeting software

UNDERPINNING KNOWLEDGE AND SKILLS

You need to know and understand:

E-mail facilities

1. What are the options for re-directing e-mails.
2. What and how settings can be changed to affect what the e-mail software does and when.
3. When and how to use encryption software.
4. What are the benefits and limitations of different access methods.

Problems with exchanging information

5. How to change e-mail and browser settings to improve protection against risks.
6. How to identify whether problems are local (e.g. software or network errors) or linked to the service provided by the ISP.

Laws and guidelines

7. What other people need to know about the laws and guidelines that affect using ICT.
8. How to communicate with people about the laws and guidelines.

EVIDENCE GUIDE

For assessment purposes:

(1) Critical Aspects of Evidence

You will need to produce **at least three (3) substantial and complex** tasks for your assessor to judge and decide whether you have met the requirements of this unit.

Your evidence must show that you have met **all** the performance criteria, range and underpinning knowledge skills requirements.

A. Connect **equipment to:**

- (i) network ports
- (ii) internet ports

B. Connect **cabling to:**

- (i) network/Internet cable
- (ii) telephone cable

C. Use **advanced settings to:**

- (i) managing e-mail accounts
- (ii) manage junk e-mail/spam

D. Choose method for **exchanging real time information:**

- (i) electronic live chat video and sound facilities
- (ii) VOIP (Voice Over Internet Protocol)
- (iii) electronic chat facilities
- (iv) virtual meeting software

(2) Methods of Assessment

Observation by your assessor of you:

- Choosing and using the most appropriate method of accessing e-mails
- Re-directing e-mails to specific e-mail boxes
- Using advanced settings (e.g. using encryption and dealing with junk e-mail)
- Using appropriate methods for exchanging information

Answers to written or oral questions from your assessor

(3) Context of Assessment

Your evidence may come from activities in your workplace and/or from simulation.

U43703: Use Internet and intranets

Unit Descriptor:

This unit is suitable for you if your work involves advising others about Internet and intranet guidelines, policies, laws and connection methods.

At the end of this unit you will be able to:

Select and use appropriate connection methods efficiently and effectively to access, retrieve and sharing relevant information of many different types.

ELEMENT**PERFORMANCE CRITERIA**

To be competent you must achieve the following:

1. Use Internet and intranets

Evaluate and advise

- 1.1 Advise and verify adherences to stipulated Internet and intranet guidelines, policies and laws.
- 1.2 Verify information found by searches.
- 1.3 Advise others about choosing appropriate search engines for maximum results.
- 1.4 Advise others about **finding and evaluating information.**

Sharing information

- 1.5 Advise about the use of appropriate **methods for sharing real time information.**
- 1.6 Advise about adjusting the format of information to make it easier to share.

Customise browser software

- 1.7 Maintain the performance of browser software by **monitoring settings.**

Choose connection methods

- 1.8 Gather information about how the connection will be used.
- 1.9 Consider different **connection methods**, speeds and costs.
- 1.10 Choose and recommend a method that is fit for the purpose.

RANGE STATEMENT

You must cover the items below:

A. Find and Evaluate information:

- (i) credibility of information
- (ii) reliability of information
- (iii) relevance of information
- (iv) sufficiency of information
- (v) validity of information

B. Methods of sharing real time information:

- (i) upload and download files from FTP and HTTP sites
- (ii) send and receive web based mail
- (iii) send attachments
- (iv) use electronic live chat video and sound facilities
- (v) use VOIP (Voice Over Internet Protocol)

C. Monitoring settings for:

- (i) security
- (ii) privacy
- (iii) advanced facilities

D. Connection methods:

- (i) broadband DSL
- (ii) broadband wireless (WI-FI)
- (iii) dial-up
- (iv) satellite
- (v) broadband cable
- (vi) mobile broadband

UNDERPINNING KNOWLEDGE AND SKILLS

You need to know and understand:

Connection methods

1. What are the benefits and limitations of different types of connection, hardware and software for internet and intranet access.
2. What issues may affect some groups of users, (i.e., persons with disabilities or new learners on how to access information.
3. How to gather information about how the connection will be used.
4. How to consider different connection methods, speeds and costs.
5. How to choose and recommend a method that is fit for the purpose.

Browser facilities

6. How the performance of a browser can be maintained using appropriate settings.
7. How to help other users maintain the performance of their browser.

Information and other opportunities

8. What search engines are and how to use them.
9. What opportunities are there to post or publish material to websites.
10. What opportunities are there to create websites.

Internet security risks

11. How to set up protection against risks.
12. How to limit the access that other users can have to the internet.

Laws and guidelines

13. What other people need to know about the laws and guidelines that effect using ICT.
14. How to communicate with people about the laws and guidelines.

EVIDENCE GUIDE

For assessment purposes:

(1) Critical Aspects of Evidence

You will need to produce at least **three (3) substantial and complex** tasks.

Your evidence must show that you have met **all** the performance criteria, range and underpinning knowledge skills requirements.

A. Find and evaluate information:

- (i) credibility of information
- (ii) reliability of information
- (iii) relevance of information
- (iv) sufficiency of information
- (v) validity of information

B. Methods of sharing information:

- (i) upload and download files from FTP and HTTP sites
- (ii) send and receive web-based mail
- (iii) send attachments
- (iv) use electronic live chat video and sound facilities
- (v) use VOIP (Voice Over Internet Protocol)

C. Monitoring settings for:

- (i) security
- (ii) privacy
- (iii) advanced facilities

D. Connection methods:

- (i) broadband DSL
- (ii) broadband wireless (WI-FI)
- (iii) dial-up
- (iv) satellite
- (v) broadband Cable
- (vi) mobile broadband

(2) Methods of Assessment

Observation by your assessor of you:

- Selecting and using connection methods efficiently and effectively to access, retrieve and exchange relevant information of many different types
- Demonstrating knowledge of issues affecting the use of the technology, such as security, legislation and software feature.

Answers to written or oral questions from your assessor.

(3) Context of Assessment

Your evidence must be the result of real work activities undertaken by yourself in your workplace or it may come from simulation.

U43803: Troubleshoot ICT Problems (For users)

Unit Descriptor:

This unit is suitable for you if your work involves solving technically complex errors (e.g. wiped hard disk, broken graphics card or problems with internet connections); and avoiding and resolving compatibility problems.

At the end of this unit you will be able to:

Solve complex or serious technical errors with hardware and software, using a wide range of skills and experience, seeking additional technical information where necessary.

ELEMENT**PERFORMANCE CRITERIA**

To be competent you must achieve the following:

1. Troubleshoot ICT Problems (For users)

Recover system

- 1.1 Use **tools and techniques** to recover from complex and or serious problems.

Correct Problems

- 1.2 Collect information about the **problem**.
- 1.3 Diagnose technically complex or serious **problems**.
- 1.4 Research for a solution to the **problem**.
- 1.5 Plan how to correct the **problem** and avoid similar **problems**.
- 1.6 Record logical steps which outline how to correct **problems**.

RANGE STATEMENT

You must cover the items below:

- A.** Use **tools and techniques** to recover from:
- (i) hardware system failure
 - (ii) software system failure
- B.** Correct **problems**:
- (i) following actions suggested in on-screen error messages.
 - (ii) using methods that have worked in the past.
 - (iii) using help menus or manufacturers' guidelines.
 - (iv) following instructions from technical support.
 - (v) using new technical information obtained from research.

UNDERPINNING KNOWLEDGE AND SKILLS

You need to know and understand:

Problems

1. What technically complex or problems may occur and how to respond to them regarding:
 - Installing software
 - Hardware configuration
 - Dial-up networking and modem connections
 - Ways of connecting to the internet

Communication

2. What advice to give other users about problems.
3. What to communicate regarding complex or serious technical problems.
4. How to record solutions to problems.

Compatibility

5. What compatibility problems may be caused by the interaction of hardware, software and operating systems.
6. How to avoid and resolve problems.

EVIDENCE GUIDE

For assessment purposes

(1) Critical Aspects of Evidence

You will need to produce at least **three (3) substantial and complex** tasks for your assessor to judge and decide whether you have met the requirements of this unit.

Your evidence must show that you have met **all** the performance criteria, range and underpinning knowledge skills requirements.

A. Use **tools and techniques** to recover from:

- (i) hardware system failure
- (ii) software system failure

B. **Correct problems:**

- (i) following actions suggested in on-screen error messages.
- (ii) using methods that have worked in the past.
- (iii) using help menus or manufacturers' guidelines.
- (iv) following instructions from technical support.
- (v) using new technical information obtained from research.

Your evidence must show that you have met **all** the performance criteria, range and underpinning knowledge skills requirements.

(2) Methods of Assessment

Observation by your assessor of you:

- Recovering hardware and software after system failure.
- Correcting problems using different methods.
- Diagnosing correctly technically complex or serious problems.
- Providing logical steps which outline how to correct problems.

Answers to written or oral questions from your assessor.

(3) Context of Assessment

Your evidence must be the result of real work activities/simulation undertaken by yourself.

U43903: Maintain ICT (For Users)

Unit Descriptor:

This unit Involves you planning regular and less common maintenance to enhance the understanding and performance of hardware and software.

At the end of this unit you will be able to:

Carry out appropriate routine and non-routine maintenance to keep hardware and software up-to-date and in good condition

ELEMENT**PERFORMANCE CRITERIA**

To be competent you must achieve the following:

1. Plan ICT Maintenance for users.

Manage files

1.1 Change default settings for saving data.

Clean

1.2 Select suitable cleaning methods and materials.

1.3 Clean **hardware** to keep them working at optimum levels.

1.4 Clean hardware in keeping with manufacturer's guide.

Avoid health and safety risks

1.5 Carry out a risk assessment of own use of ICT.

1.6 Carry out a risk assessment of others health and safety when using ICT.

Maintain

1.7 Use **system maintenance** tools to maintain system performance.

1.8 Monitor and change basic input/output settings (BIOS), where necessary.

Enhance performance

- 1.9 Review the features and settings of hardware; make changes where necessary to improve economy, efficiency and performance.
- 1.10 Uninstall software.
- 1.11 Install maintenance updates.

RANGE STATEMENT

You must cover the items below:

A. Hardware:

- (i) keyboard
- (ii) mouse
- (iii) vents
- (iv) monitor
- (v) other peripherals

B. Use system maintenance tools:

- (i) disk cleanup
- (ii) defragmenting software

UNDERPINNING KNOWLEDGE AND SKILLS

You need to know and understand:

Maintenance

1. What routine maintenance may be needed.
2. What service maintenance professionals need to provide.

Health and Safety issues

3. What are the ways to keep risks to people to a minimum.
4. What are the ways to keep risks to hardware to a minimum

Upgrade hardware and software

5. What are the benefits of upgrading hardware and software.
6. What the drawbacks of not upgrading hardware and software.
7. How to check compatibility of software and hardware.

EVIDENCE GUIDE

For assessment purposes

(1) Critical Aspects of Evidence

You will need to produce at least **two (2) comprehensive** tasks for your assessor to judge and decide whether you have met the requirements of this unit.

Your evidence must show that you have met all the performance criteria, range and underpinning knowledge skills requirements.

A. Hardware

- (i) keyboard
- (ii) mouse
- (iii) vents
- (iv) monitor
- (v) other peripherals

B. Use system maintenance tools

- (i) disk cleanup
- (ii) defragmenting software

(2) Methods of Assessment

Typical task size:

Complete a maintenance task that will involve actions that users can take on a system in order to prevent or slow down deterioration of various functions. It does not mean the ability to strip down and repair all or part of the system, which is a job for the ICT System Support practitioners.

Observation by your assessor of you:

- Managing files and maintaining performance
- Cleaning hardware
- Identifying and avoiding health and safety risks to self and others
- Maintaining hardware and software efficiently
- Enhancing performance of hardware and software

Answers to written or oral questions from your assessor

(3) Context of Assessment

The evidence may come from activities in your workplace and/or from simulation.

U44003:**Evaluate the impact of ICT**

Unit Descriptor:

This unit is suitable for you are required to evaluate how to improve ICT use (e.g. analyzing costs and benefits of making changes to the use of ICT.)

At the end of this unit you will be able to:

Analyse and evaluate a wide range of evidence about ICT use and be able to give well-considered reasons to support the conclusions drawn.

ELEMENT**PERFORMANCE CRITERIA**

To be competent you must achieve the following:

- | | |
|---|---|
| 1. Analyse and evaluate the impact of ICT | 1.1 Gather sufficient information to be able to make informed judgements about using ICT. |
| | 1.2 Identify appropriate criteria and use it to evaluate the advantage and disadvantages of where, when, how and by whom ICT is used. |
| | 1.3 Make recommendations about the use of ICT. |
| 2. Contribute to learning about ICT | 2.1 Give advice to other people about how to use ICT and how to improve the use of ICT . |
| | 2.2 Help others to identify skills gaps and learning needs. |
| | 2.3 Help others to find information about developments in the use of ICT. |
| | 2.4 Help others to choose the best methods to learn ICT skills. |

RANGE STATEMENT

You must cover the items below:

A. Gather information on:

- (i) how ICT is used
- (ii) developments in using ICT
- (iii) advantage and disadvantage of using ICT
- (iv) opportunities for learning ICT skills
- (v) impact of ICT

B. Give advice on how to improve the use of ICT:

- (i) actions to be taken from on-screen messages
- (ii) methods that have worked in the past to improve the use of ICT
- (iii) using help menus or manufacturers' guidelines
- (iv) following instructions from technical support
- (v) suggesting the most suitable hardware and software
- (vi) upgrading hardware and software

UNDERPINNING KNOWLEDGE AND SKILLS

You need to know and understand

Individuals and organisations

1. What social, economic, environmental, ethical and moral issues affect own and other people's use of ICT.
2. How opportunities for e-commerce are changing the ways businesses sell and market their products and services and interact with their customers.
3. How effectively ICT functioning is within an organization, such as by:
 - Comparing how individuals, departments and the whole organization use ICT
 - Identifying improvements to what and how ICT is used
 - Analysing the costs and benefits of making changes to the use of ICT or assessing the use of ICT when developing an overall business improvement strategy.

Improve access

4. What effects there may be on people that:
 - Cannot use ICT or access information using ICT.

Health and safety issues

5. How to explain health and safety risks to others.
6. What actions can be taken to avoid health and safety risks to other people and hardware.

Security risks

7. What are the risks to computers and computer networks linked to the internet.
8. What are the risks from disasters or other unforeseen events.

Improving learning

9. How to help other people who are learning to use ICT.

EVIDENCE GUIDE

For assessment purposes:

(1) Critical Aspects of Evidence

You will need to produce **at least three (3) substantial and complex** tasks for your assessor to judge and decide whether you have met the requirements of this unit.

Your evidence must show that you have met all the performance criteria, range and underpinning knowledge and skills requirements.

A. Gather information on:

- (i) how ICT is used
- (ii) developments in using ICT
- (iii) advantage and disadvantage of using ICT
- (iv) opportunities for learning ICT skills
- (v) impact of ICT

B. Give advice on how to improve the use of ICT:

- (i) actions to be taken from on-screen messages
- (ii) methods that have worked in the past to improve the use of ICT
- (iii) using help menus or manufacturers' guidelines
- (iv) following instructions from technical support
- (v) suggesting the most suitable hardware and software
- (vi) upgrading hardware and software

(2) Methods of Assessment

Observation by your assessor of you:

- Collecting information from a colleague, other sources, about the most appropriate learning opportunities to meet any ICT skills gaps identified.

Answers to written or oral questions from your assessor.

(3) Context of Assessment

Your evidence may come from activities in your workplace and/or from simulation.

U44103: Use ICT Systems

Unit Descriptor:

This unit is suitable for you if your work involves you accessing software from networks; and improving the protection of software and data security.

At the end of this unit you will be able to:

Effectively set up and use different types of hardware and software safely.

ELEMENT

PERFORMANCE CRITERIA

To be competent you must achieve the following:

- | | |
|---------------------------------------|---|
| 1. Setup hardware and access network. | 1.1 Connect hardware and storage media to a computer and network safely. |
| | 1.2 Access remote networks and network software. |
| 2. Protect software and data | 2.1 Evaluate and advise on levels of security risk for different users. |
| | 2.2 Use configurations on the operating system and other software to provide different levels of access for different users. |
| | 2.3 Help end users to create strong passwords. |
| | 2.4 Advice on other methods of data and software protection. |
| | 2.5 Use and maintain contingency systems to keep the effects of security breaches to a minimum. |
| | 2.6 Make recovery plans to deal with the effects of disasters and other unforeseen events. |

RANGE STATEMENT

You must cover the items below:

A. Connect safely:

- (i) commonly used peripherals to a stand-alone computer
- (ii) commonly used storage media to a computer
- (iii) a computer to a network

B. Use techniques to Access:

- (i) data from networks
- (ii) software from networks (LAN and WAN)

C. Connect Storage Media safely

- (i) hard drives
- (ii) optical disks
- (iii) USB memory

D. Evaluate and advise on Levels of security risk:

- (i) low
- (ii) medium
- (iii) high

UNDERPINNING KNOWLEDGE AND SKILLS

You need to know and understand:

Types of computer hardware

1. How to choose, use and connect appropriate combinations of hardware and software.

Errors

2. What technically complex or serious errors and problems may occur and how to respond to them, regarding:
 - installing software
 - dial-up networking and or ADSL connections
 - other ways of connecting to the Internet
 - intermittent errors.

ICT health and safety issues

3. How to explain ICT health and safety risks to others.
4. What action can be taken to avoid ICT health and safety risks to other people and hardware

ICT security risks

5. What are the risks to computers and LAN and WAN networks.
6. What are the risks from disasters or other unforeseen events.
7. How to provide different levels of access for guest, employee, technician.

Advice

8. How to give advice to end users on avoiding and troubleshooting common errors.
9. Where and how to find advice on complex or serious technical errors.

EVIDENCE GUIDE

For assessment purposes:

(1) Critical Aspects of Evidence

You will need to produce **at least three (3) substantial and complex tasks** for your assessor to judge and decide whether you have met the requirements of this unit.

Your evidence must show that you have met all the performance criteria, range and underpinning knowledge skills requirements.

A. Connect:

- (i) commonly used peripherals to a stand-alone computer
- (ii) commonly used storage media to a computer
- (iii) a computer to a network

B. Use techniques to Access:

- (i) data from networks
- (ii) software from networks (LAN and WAN)

C. Connect Storage Media safely:

- (i) hard drives
- (ii) optical disks
- (iii) USB memory

D. Evaluate and advise on Levels of security risk:

- (iv) low
- (v) medium
- (vi) high

(2) Methods of Assessment

Observation by your assessor of you:

- Setting up different types of hardware.
- Accessing data, and networks software.
- Configuring and accessing data and network software.
- Protecting use of software and different types of data.

Answers to written or oral questions from your assessor

(3) Context of Assessment

Your evidence may come from activities in your workplace and/or from simulation.

U44103: ICT Security for users

Unit Descriptor:

This unit is suitable for you if your work involves knowing how to monitoring potential risks and taking steps to protect own and others data and software (e.g. from unauthorised remote access, disasters or other unforeseen events).

At the end of this unit you will be able to:

Monitor potential risks and use appropriate methods to enhance the security of systems and other users.

ELEMENT**PERFORMANCE CRITERIA**

To be competent you must achieve the following:

1. Protect software and data

- 1.1 Assess **levels of security risk** for different users when deciding on the use of **tools and techniques** to protect software.
- 1.2 Use settings on the operating system to provide different levels of access for **different users**.
- 1.3 Improve the use of different **levels of passwords** and other methods of protecting data and software.
- 1.4 Advise and standardize the policies regarding the use of passwords and other security measures.
- 1.5 Use and maintain contingency systems to keep the effects of security breaches to a minimum.
- 1.6 Create recovery plans to deal with the effects of disasters and other unforeseen events.

RANGE STATEMENT

You must cover the items below:

A. Assess levels of security risk

- (i) low
- (ii) medium
- (iii) high

B. Use tools and techniques to protect software:

- (i) security hardware
- (ii) security software

C. Use levels of password

- (i) low
- (ii) medium
- (iii) high

UNDERPINNING KNOWLEDGE AND SKILLS

You need to know and understand:

Security risks

1. What are the risks to computers and computer networks linked to the internet.
2. What are the risks from disasters or other unforeseen events.

Control access

3. How to improve the protection of data.
4. What are the ways to provide different levels of access to different users.
5. How to improve protection from unauthorized remote access, such as using firewalls.
6. How to use levels of access for different users (i.e., guest, employee, manager, technicians).

Laws and guidelines

7. What other people need to know about the laws and guidelines that effect using ICT.
8. How to communicate with people about the laws and guidelines.

EVIDENCE GUIDE

For assessment purposes:

(1) Critical Aspects of Evidence

You will need to produce at least **two (2) comprehensive tasks**.

Your evidence must show that you have met **all** the performance criteria, range and underpinning knowledge skills requirements.

A. Assess levels of security risk

- (i) low
- (ii) medium
- (iii) high

B. Use tools and techniques to protect software:

- (i) security hardware
- (ii) security software

D. Use levels of password

- (i) low
- (ii) medium
- (iii) high

(2) Methods of Assessment

Observation by your assessor of you:

- Protecting own and others' software and different types of data.

Answers to written or oral questions from your assessor

(3) Context of Assessment

The evidence may come from activities in your workplace and/or from simulation.

U44303: Use spreadsheet software

Unit Descriptor:

This unit is suitable for you if your work involves the production of spreadsheets for analysing and interpreting complex data (e.g. a cost benefit analysis, budgets and annual accounts).

At the end of this unit you will be able to:

Use spreadsheet software effectively which will enable data analysis.

ELEMENT

PERFORMANCE CRITERIA

To be competent you must achieve the following:

1. Use Spreadsheet Software

Create files

- 1.1 Use appropriate techniques to create and organise spreadsheets.
- 1.2 Convert files to another suitable format where necessary.

Combine information

- 1.3 Create references to external data.
- 1.4 Use advanced **techniques** for **combining** or merging versions of information from different users.

Import

- 1.5 Create documents with information imported from a different type of software.

Export

- 1.6 Create information to be exported to a file that can be used by different types of software.

Enter and edit spreadsheet data

- 1.7 Use advanced **editing techniques** appropriately in spreadsheets.

Format spreadsheets

- 1.8 **Format** using appropriate tools and techniques for conditional formatting charts and pivot table reports.

Functions and formulas

- 1.9 Use appropriate **functions and formulas** in spreadsheets.

Check, analyse and interpret (spreadsheets)

- 1.10 Check the validity, relevance and accuracy of analysis and interpretation of calculations and results.
- 1.11 Use appropriate **tools and techniques** for analysing complex data.

Present (spreadsheets)

- 1.12 Use appropriate methods to **present data**.

Improve efficiency

- 1.13 Customise menus and tool bars.
- 1.14 Automate tasks by using macros.

RANGE STATEMENT

You must cover the items below:

A. Techniques for combining information:

- (i) hyperlinks
- (ii) object linking and embedding

B. Editing techniques in spreadsheets:

- (i) hide and protect cells
- (ii) create a wide range of types of chart
- (iii) create multiple copies of a shared workbook
- (iv) modify multiple copies of a shared workbook
- (v) merge multiple copies of a shared workbook

C. Use tools and techniques to **Format:**

- (i) cells – data type
- (ii) conditional formatting
- (iii) charts – e.g. font, number format, axis scale, colour, annotation and layout
- (iv) pivot table reports

D. Use **functions and formulas:**

- (i) mathematical
- (ii) statistical
- (iii) financial
- (iv) relational

E. **Tools and techniques for:**

- (i) retrieving text and data from a table or pre-formatted area on a web page
- (ii) adding data restrictions
- (iii) adding messages to data
- (iv) data validation
- (v) using formula to determine valid entries for cells
- (vi) displaying data according to interest
- (vii) using pivot tables to create, rotate rows and columns and filter data by displaying different pages
- (viii) creating data maps with titles, text and pin maps

F. Present **data:**

- (i) views (e.g. chart view, column view etc.)
- (ii) pivot tables
- (iii) pivot table reports

UNDERPINNING KNOWLEDGE AND SKILLS

You need to know and understand:

Produce information

1. How to produce information which communicates effectively, by structuring the content to take account of different contexts and audience needs.

Spreadsheets

2. How to produce spreadsheets which are technically complex in terms of content and analysis, as well as the understanding, skills and techniques needed to produce them.

Check, analyse and interpret

3. What methods can be used to check the validity, relevance and accuracy of analysis and interpretation of calculations and other data, such as to compare related totals or predict trends.

EVIDENCE GUIDE

For assessment purposes:

(1) Critical Aspects of Evidence

You will need to produce at least **three (3) substantial and complex** tasks.

Your evidence must show that you have met all the performance criteria, range and underpinning knowledge skills requirements.

A. Techniques for combining information:

- (i) hyperlinks
- (ii) object linking and embedding

B. Editing techniques in spreadsheets:

- (i) hide and protect cells
- (ii) create a wide range of types of chart
- (iii) create multiple copies of a shared workbook
- (iv) modify multiple copies of a shared workbook
- (v) merge multiple copies of a shared workbook

C. Use tools and techniques to format:

- (i) cells – data type
- (ii) conditional formatting
- (iii) charts – e.g. font, number format, axis scale, colour, annotation and layout; and layout
- (iv) pivot table reports

D. Use functions and formulas to cover the following types:

- (i) mathematical
- (ii) statistical
- (iii) financial
- (iv) relational

E. Tools and techniques for:

- (i) retrieving text and data from a table or preformatted area on a web page
- (ii) adding data restrictions
- (iii) adding messages to data
- (iv) data validation
- (v) using formula to determine valid entries for cells
- (vi) displaying data according to interest
- (vii) using pivot tables to create, rotate rows and columns and filter data by displaying different pages
- (viii) creating data maps with titles, text and pin maps

F. Present data:

- (i) views (e.g. chart view, column view etc.)
- (ii) pivot tables
- (iii) pivot table reports

(2) Methods of Assessment

Typical task size: Three (3) spreadsheets which allowed for the analysis and interpretation of complex data which could be a cost benefit analysis, budgets and annual accounts.

Observation by your assessor of you:

Using the skills and techniques listed below to prepare spreadsheets with the following types of data:

- Mathematical
- Statistical
- Financial
- Relational

Skill and techniques:

- Handling files and converting them
- Using advance techniques for combining or merging versions of information
- Using advance editing techniques
- Formatting spreadsheets
- Checking, analysing and interpreting spreadsheets
- Using appropriate functions and formulas
- Improving efficiency by customising and automating

Answers to written or oral questions from your assessor

(3) Context of Assessment

The evidence may come from activities in your workplace and/or from simulation.

U44403: Use database software

Unit Descriptor:

This unit is suitable for you if your work involves modification of relational databases (e.g., customers buying methods, order frequency and payment patterns).

At the end of this unit you will be able to:

Enter information from a range of sources, retrieve and format information, and modify database structures.

ELEMENT

PERFORMANCE CRITERIA

To be competent you must achieve the following:

Enter data

1. Use Database Software

1.1 Create multiple tables for entering data with required field characteristics.

1.2 Create forms for data entry.

1.3 Import data from **external sources**.

Modify databases

1.4 Modify field characteristics within a multiple-table database.

1.5 Establish relationships that enable appropriate information to be retrieved while using **tools and techniques for maintaining the integrity of the data**.

1.6 Link data with other software applications.

Format data and layout data

1.7 Use appropriate tools and techniques to format database fields.

1.8 Use appropriate tools and techniques to format and layout database fields, tables, forms, records and reports from multiple-table databases.

- 1.9 Create styles for fields, tables, forms, records and reports within multiple-table databases.

Check data

- 1.10 Check data integrity, formatting and any links with other applications.

Database queries

- 1.11 Use different methods for **query** data to meet requirements.

Data reports

- 1.12 Plan and produce reports from multi-table databases.
- 1.13 Produce reports for use by internal/external applications.

Improve efficiency

- 1.14 Customise menus and toolbars.
- 1.15 Automate common tasks by using macros.

RANGE STATEMENT

You must cover the items below:

- A.** Import data from **external sources**:
 - (i) databases
 - (ii) spreadsheets

- B.** Use **tools and techniques to maintain the integrity of data**:
 - (i) primary key or compound keys
 - (ii) relationships
 - (iii) normalisation

- C.** Use different **Query** methods:
 - (i) built-in queries (e.g. select queries, make table queries etc.)
 - (ii) SQA (standard query language)
 - (iii) software code e.g. Fox-pro

UNDERPINNING KNOWLEDGE AND SKILLS

You need to know and understand:

Database design

1. What is the purpose of relationships in multiple-table databases.
2. How relationships are established in multiple-table databases.
3. How data is structured in a multi-table database.
4. What logical operators are and how to use them.

Field characteristics

5. What characteristics fields may have in a multiple-table database, i.e., primary key and relationships with other fields.
6. How field characteristics can facilitate queries and reports and can be used to validate data.

Data integrity

7. What issues there are about handling data, such as completeness of data, data consistency and redundancy.
8. What are the ways to balance different issues in handling data.
9. How to maintain data integrity in a multiple-table database.

EVIDENCE GUIDE

For assessment purposes

(1) Critical Aspects of Evidence

You will need to produce at least **three (3) substantial and complex** tasks.

Your evidence must show that you have met **all** the performance criteria, range and underpinning knowledge skills requirements.

A. Import data from external sources:

- (i) databases
- (ii) spreadsheets

B. Use tools and techniques to maintain the integrity of data:

- (i) primary key or compound keys
- (ii) relationships
- (iii) normalisation

C. Use different Query methods:

- (i) built-in queries (e.g. select queries, make table queries etc.)
- (ii) SQA (standard query language)
- (iii) software code e.g. Fox-pro

(2) Methods of Assessment

Typical task size: Two (2) reports generated from the database.

Observation by your assessor of you:

- Entering data into database forms
- Importing data from external sources
- Modifying multi-table databases while maintaining the integrity of the data
- Formatting database components including reports
- Checking for data integrity, formatting and links in databases
- Producing database reports
- Producing database queries
- Improving efficiency – utilising short cuts

Work products to show:

- A multi-table relational database

Answers to written or oral questions from your assessor

(3) Context of Assessment

The evidence may come from activities in your workplace and/or from simulation.

U44503: Use Customised or Specialist Software

Unit Descriptor:

This unit is suitable for you if your work involves the selection and use of customized/specialist software applications to carry out an appropriate work related task.

At the end of this unit you will be able to:

Exploit the capabilities of customized/specialist software to carry out technically complex tasks.

ELEMENT

PERFORMANCE CRITERIA

To be competent you must achieve the following:

1. Use Customised or Specialist Software

Handle files

- 1.1 Convert **file types** to another suitable format, where necessary.

Combine information

- 1.2 Export and import, link objects between different software.
- 1.3 Make references to external data.
- 1.4 Use advanced techniques for **combining information** or merging versions of information from different users.

Enter, edit, format and process information

- 1.5 Carry out technically complex tasks that exploit the capabilities of the **software tools and techniques** for entering, editing, formatting and processing information.

Check information

- 1.6 Check reliability and accuracy of output.

RANGE STATEMENT

You must cover the items below:

A. Convert file type:

- (i) audio
- (ii) video
- (iii) webpage
- (iv) text and or graphic

B. Combining information

- (i) hyper links
- (ii) object linking and embedding

C. Use software tools and techniques for:

- (i) entering data
- (ii) inserting text and or graphics
- (iii) deleting text and or graphics
- (iv) cutting and pasting
- (v) copying and pasting
- (vi) modifying the way the information is generated
- (vii) customising the functions of the application to make it more efficient
- (viii) formatting techniques for the text and, or graphics
- (ix) generating result(s)

UNDERPINNING KNOWLEDGE AND SKILLS

You need to know and understand

Purpose

1. What changes could be made to the way that the software was used to make tasks that are similar, easier or more successful in the future.

Tools and functions

2. How to exploit the capabilities of most of the tools and functions of software applications.

EVIDENCE GUIDE

For assessment purposes:

(1) Critical Aspects of Evidence

You will need to produce **at least two (2) comprehensive tasks** for your assessor to judge and decide whether you have met the requirements of this unit.

Your evidence must show that you have met all the performance criteria, range and underpinning knowledge and skills requirements.

A. Convert file type:

- (i) audio
- (ii) video
- (iii) webpage
- (iv) text and or graphic

B. Combining information

- (i) hyper links
- (ii) object linking and embedding

C. Use software tools and techniques for:

- (i) entering data
- (ii) inserting text and or graphics
- (iii) deleting text and or graphics
- (iv) cutting and pasting
- (v) copying and pasting
- (vi) modifying the way the information is generated.
- (vii) customizing the functions of the application to make it more efficient
- (viii) formatting techniques for the text and, or graphics
- (ix) generating result (s)

(2) Methods of Assessment

Observation by your assessor of you:

- Using appropriate file handling techniques for the software including converting files to suitable formats when necessary.
- Using basic techniques to combine information.
- Using appropriate basic techniques for entering, formatting, editing and processing information when carrying out simple tasks (e.g. entering data, inserting, deleting, cutting and pasting, copying and pasting, dragging and dropping, finding and replacing and generating a result/s).
- Using appropriate techniques to check simple information (e.g. the accuracy of text, that figures are entered correctly, and the labeling and sizing of images, charts and diagrams).

Answers to written or oral questions from your assessor

(3) Context of Assessment

Your evidence may come from activities in your workplace and/or from simulation.

U44603: Use website software

Unit Descriptor:

This unit is suitable for you if your work involves the production of interactive websites (e.g. a website that allows the user to use a guest book or message board, interact with online forms or send a message).

At the end of this unit you will be able to:

Use software efficiently to produce websites with interactive web pages that communicate effectively.

ELEMENT**PERFORMANCE CRITERIA**

To be competent you must achieve the following:

1. Use website software

Manage files

- 1.1 Use appropriate software and technique to create, organise and save interactive files.
- 1.2 Use appropriate software and techniques to convert files to other suitable formats where necessary.

Create combining information options

- 1.3 Export and import, link objects between different software.
- 1.4 Make references to external data.
- 1.5 Use advanced techniques for **combining or merging** versions of information from different users.

Plan and produce (websites)

- 1.6 Choose appropriate **web tools and techniques** to create multiple-page websites with interactive features.

Edit, format and layout content

- 1.7 Use a wide range of **tools and techniques** to produce content for interactive website.

Check layout issues

- 1.8 Check that structures, style and formatting are used appropriately.
- 1.9 Check that file formats are suitable.
- 1.10 Check that file and image formats are compatible with web browsers.
- 1.11 Check compatibility of images with different software and operating systems, where appropriate.

Improve loading speed

- 1.12 Improve the loading speed of a website.

Backup website

- 1.13 Use appropriate software to backup website.

Website security

- 1.14 Use appropriate software and techniques for website security.

RANGE STATEMENT

You must cover the items below:

A. Combining or merging information:

- (i) hyperlinks
- (ii) object linking
- (iii) embedding
- (iv) import
- (v) export

B. Use Web tools and techniques for:

- (i) programming language to create code
- (ii) adding multi-media content to web pages
- (iii) setting up a secure area, a message board or an e-mail link
- (iv) testing a website on a range of hardware and software specifications
- (v) creating links to bookmark text within a page
- (vi) linking web pages together within a website and adding a hyperlink to someone else's website
- (vii) altering simple code using programming language.

C. Use tools and techniques for:

- (i) creating tables and templates.
- (ii) creating colour schemes
- (iii) cascading style sheets
- (iv) downloading files in appropriate formats

UNDERPINNING KNOWLEDGE AND SKILLS

You need to know and understand:

Produce information

1. How to produce information which communicates effectively, by structuring the content to take account of different contexts and audience needs.

Website

2. Which interactive web pages allow the user to carry out operations, (e.g., leave messages, chat or fill in forms).

Website features

3. What security features are used for websites.
4. What features and strategies are used to increase the chance of people visiting websites, (e.g., meta tags and marketing).
5. What is the difference between interactive web pages and e-commerce websites.
6. What are the benefits and drawbacks of different features for the owner.

Laws and guidelines

7. What other people need to know about the laws and guidelines which affect using ICT.
8. How to communicate with people about the laws and guidelines.

User issues

9. How to increase accessibility for different users.
10. How to improve down load speed for users.

EVIDENCE GUIDE

For assessment purposes:

(1) Critical Aspects of Evidence

You will need to produce at least **three (3) substantial and complex tasks**.

Your evidence must show that you have met **all** the performance criteria, range and underpinning knowledge skills requirements.

A. Combining or merging information:

- (i) hyperlinks
- (ii) object linking
- (iii) embedding
- (iv) import
- (v) export

B. Use Web tools and techniques for:

- (i) programming language to create code
- (ii) adding multi-media content to web pages
- (iii) setting up a secure area, a message board or an e-mail link
- (iv) testing a website on a range of hardware and software specifications
- (v) creating links to bookmark text within a page
- (vi) Linking web pages together within a website and adding a hyperlink to someone else's website
- (vii) altering simple code using programming language.

C. Use tools and techniques for:

- (i) creating tables and templates.
- (ii) creating colour schemes
- (iii) cascading style sheets
- (iv) downloading files in appropriate formats

(2) Methods of Assessment

Observation by your assessor of you:

- Demonstrating your ability to produce interactive websites for a specific, useful purpose and that could allow users to do two (2) or more of the following:
 - (i) Use a guest book
 - (ii) Use a message board
 - (iii) Fill in feedback forms
 - (iv) Send a message
- Upload and publishing a website.

Answers to written or oral questions from your assessor

(3) Context of Assessment

The evidence may come from activities in your workplace and/or from simulation.

U44703: Use artwork and imaging software

Unit Descriptor:

This unit is suitable for you if your work involves the creation of complex artwork and images (e.g. cover artwork for a journal, the content and layout of a newsletter, editing including removal of elements from a photograph).

At the end of this unit you will be able to:

Use software efficiently to produce artwork and images that are technically complex.

ELEMENT

PERFORMANCE CRITERIA

To be competent you must achieve the following:

1. Use artwork and imaging software

Manage files

- 1.1 Convert files to another suitable format, where necessary.

Create artwork/drawings, and images

- 1.2 Create technically complex artwork and images using a variety of **different software tools and techniques**.
- 1.3 Take account of the following when creating artwork and images: image resolution and method of display or printing.

Insert, manipulate and edit artwork and images

- 1.4 Demonstrate a wide command of editing techniques appropriate to the software.
- 1.5 Change the resolution, colour depth and file format of images to suit different usage.

Check artwork and images

- 1.6 Check that the colour depth and file format are suitable for the intended use.

- 1.7 Check speed of loading images on a web browser, where appropriate.
- 1.8 Check and adjust images to ensure compatibility between different software.

Check Layout

- 1.10 Check that structure, style and formatting are used to aid meaning in material.

RANGE STATEMENT

You must cover the items below:

- A.** Create artwork/and images using **different software tools and techniques:**
- (i) using layers for different elements
 - background
 - picture
 - text
 - (i) artwork with bleeds and crossovers
 - (ii) three dimensional (3D) objects and pictures

UNDERPINNING KNOWLEDGE AND SKILLS

You need to know and understand

Produce information

1. How to produce information which communicates effectively, by structuring the content to take account of different contexts and audience needs.

Artwork/drawing and images

2. How to produce complex artwork and images which communicate effectively.
3. How to use standard editing techniques (e.g., insert, manipulate and edit artwork and images).

Formats

4. What are the concepts and limitations of different image file formats.
5. What impact of file format, compression techniques, image resolution and colour depth have on file size and image quality.
6. How to save files efficiently and effectively for the intended use.

Laws and guidelines

7. What other people need to know about the laws and guidelines which affect using ICT.
8. How to communicate with people about the laws and guidelines.

EVIDENCE GUIDE

For assessment purposes:

(1) Critical Aspects of Evidence

You will need to produce **at least three (3) substantial and complex tasks**, demonstrating skills, techniques and knowledge outlined in the unit.

The skills and techniques should be demonstrated as part of a coherent piece of work, rather than as individual, isolated items.

Your evidence must show that you have met all the performance criteria, range and underpinning knowledge skills requirements.

A. Create artwork/drawings and images using **different software tools and techniques:**

- (i) using layers for different elements
 - background
 - picture
 - text
- (ii) artwork with bleeds and crossovers
- (iii) three dimensional (3D) objects and pictures

(2) Methods of Assessment

Typical task size: Produce one (1) sheet of work on an appropriate size paper including a complex image and some text.

Observation by your assessor of you:

- Creating and converting files into appropriate formats
- Creating drawings, artwork and images for inclusion in your work and not simply importing them from another source.
- Inserting, manipulating and editing artwork and images by using a wide range of skills and as many advanced techniques as is reasonable and appropriate for the task.
- Checking image for appropriate resolutions and filters and making appropriate changes if necessary.
- Checking on the text and making sure that the work looks professional and will communicate the intended information.

Work product: e.g., data presented in a suitable format to meet specifications.

Answers to written or oral questions from your assessor

(3) Context of Assessment

Your evidence may come from activities in your workplace and/or from simulation.

U44803: Use presentation software

Unit Descriptor:

This unit is suitable if your work involves the production of complex presentations (e.g. including video and sound clips).

At the end of this unit you will be able to:

Use presentation software efficiently to produce technically complex and interactive presentations which communicate effectively.

ELEMENT**PERFORMANCE CRITERIA**

To be competent you must achieve the following:

1. Produce presentations

Save files

- 1.1 Use appropriate techniques to save in different **file formats**.
- 1.2 Package file for distribution.

Combine information**Import**

- 1.3 Import information to create presentation.

Link information

- 1.4 Export presentation to create documents.

Edit presentation

- 1.5 Use wide range of editing techniques to produce complex and interactive presentations.

Check presentation

- 1.6 Check audio, video and image settings to make sure that they are appropriate for the current presentation.
- 1.7 Check that structure, style and formatting are used effectively.
- 1.8 Check timing of a slide show

Format slides

- 1.9 Use **tools and techniques** to create interactive presentations.

Produce presentations

- 1.10 Create self-running shows

Present slides

- 1.11 Save presentation slides as a stand-alone show and as web pages.

RANGE STATEMENT

You must cover the items below:

- A.** Use techniques to save in different **file formats**:
- (i) jpeg
 - (ii) pdf
 - (iii) webpage
 - (iv) as a video
- B.** Use techniques to **combine and import information**:
- (i) a spreadsheet graph to a presentation file
 - (ii) text into an image file
 - (iii) picture into a presentation file
 - (iv) simple information from a database on to a website
- C.** Use techniques to **export** information:
- (i) a spreadsheet graph into a presentation file
 - (ii) text into an image file
 - (iii) picture into a presentation file
 - (iv) simple information from a database on to a website
- D.** **Link information**:
- (i) Hyperlinks
 - (ii) Object linking and embedding
- E.** Use **Editing techniques**:
- (i) cutting, rendering and exporting video clips
 - (ii) digitising and cutting sound clips from a microphone.
- F.** Use tools and techniques to **format slides**:
- (i) create a master slide
 - (ii) format different sections
 - (iii) create different slide transitions.

UNDERPINNING KNOWLEDGE AND SKILLS

You need to know and understand:

Save files

1. How to convert files to another suitable format, where necessary.

Combine information

2. How to export and import, link objects between different software.
3. How to make references to external data (e.g. hyperlinks, object linking and embedding)
4. How to use advanced techniques for combining or merging versions of information from different users.

Edit presentations

5. How to use a wide range of editing techniques to produce technically complex and interactive presentations (e.g. for cutting, rendering and exporting video clip and for digitising and cutting sound clips from a microphone).

Check presentations

6. How to check sound and moving images and edited appropriately.
7. How to check that structure, style and formatting are used to communicate effectively.
8. How to rehearse and check timing of a slide show.

Format slides

9. How to format technically complex and interactive presentations using appropriate tools and techniques (e.g. creating a master slide to format consistently, using different formats in each section and creating different slide transitions).

Produce presentations

10. How to create interactive slides using time-line based tools.
11. How to create new scenes using video editing software.

Present slides

12. How to play sound through a computer as part of a presentation.
13. How to save presentation slides as a stand-alone show and as web pages.

EVIDENCE GUIDE

For assessment purposes:

(1) Critical Aspects of Evidence

You will need to produce at least **two (2) comprehensive tasks**.

Your evidence must show that you have met **all** the performance criteria, range and underpinning knowledge and skills requirements.

- A.** Use techniques to save in different **file formats**:
- (i) jpeg
 - (ii) pdf
 - (iii) webpage
 - (iv) as a video
- B.** Use techniques to **combine and import information**:
- (i) a spreadsheet graph into a presentation file
 - (ii) text into an image file
 - (iii) picture into a presentation file
 - (iv) simple information from a database on to a website
- C.** Use techniques to **Export**
- (i) a spreadsheet graph into a presentation file
 - (ii) text into an image file
 - (iii) picture into a presentation file
 - (iv) simple information from a database on to a website
- D.** **Link information** for:
- (i) hyperlinks
 - (ii) object linking and embedding
- E.** Use **editing techniques** for:
- (i) cutting, rendering and exporting video clips
 - (ii) digitising and cutting sound clips from a microphone.
- F.** Use tools and techniques to **format slides**:
- (i) create a master slide
 - (ii) format different sections
 - (iii) create different slide transitions.

(2) Methods of Assessment

Typical task size: A presentation of about ten (10) slides to include at least three (3) self-produced animations.

Observation by your assessor of you:

- Handling files and converting them to suitable formats
- Combining information (e.g. adding and resizing images, objects and sound).
- Using a wide range of editing techniques appropriately for complex presentations, including changing the position or orientation of objects.

- Checking presentations:
 - for appropriate text formatting techniques.
 - for appropriate positioning and editing of images and other objects.

- Using proof-reading techniques to check that text and images look professional.
- Formatting complex presentations using appropriate tools and techniques, such as changing colour-schemes for slides or using an organisational house style.
- Choosing an appropriate method and presentation style to suit audience needs.
- Choosing, using and adjusting templates for presentations
- Saving a presentation as a slide show.
- Printing speaker notes.

Work products: e.g., data presented in a suitable format to meet specifications.

Answers to written or oral questions from your assessor.

(3) Context of Assessment

The evidence may come from activities in your workplace and/or from simulation.

Assessment methods

The assessment methods describe the methods which should be used to assess performance and underpinning knowledge.

Assessors

The Assessor's role is to determine whether evidence presented by candidates within the programme, meets the required standard of competence in the relevant unit or element. The Assessor needs to be competent to assess to national standards in the area under assessment.

Approved Centre

Organisation/centre/school approved by the TVET Council to offer full National Vocational Qualifications.

Case Studies

In situations where it is difficult for workplace assessment to take place, case studies can offer the candidate an opportunity to demonstrate potential competence.

A case study is a description of an actual or imaginary situation presented in some detail. The way the case study is presented will vary depending upon the candidate, but the most usual methods are written, taped or filmed.

The main advantage of a case study is the amount of evidence of underpinning knowledge they can generate and the specific nature of the evidence produced.

Competence

In the context of vocational qualifications, competence means: the ability to carry out prescribed activities to nationally pre-determined standards in an occupation. The definition embraces cognitive, practical and behavioural skills, underpinning knowledge and understanding, and the ability to react appropriately in contingency situations.

Element

An element is a description of an activity which a person should be able to do. It is a description of an action, behaviour or outcome which a person should be able to demonstrate.

Explanation of NVQ Levels

NVQs cover five (5) levels of competence, from entry level staff at Level 1 through to senior management at Level 5.

Level 1 – Entry Level

Recognises competence in a range of varied work activities performed in a variety of contexts.

Most work activities are simple and routine. Collaboration with others through work groups or teams may often be a requirement. Substantial supervision is required especially during the early months evolving into more autonomy with time.

Level 2 – Skilled Occupations:

Recognises competence in a broad range of varied work activities performed in a variety of contexts, some of which are complex and non-routine. Some responsibility and autonomy. Collaboration with others through work groups or teams and guidance of others may be required.

Level 3 – Technician and Supervisory Occupations:

Recognises competence in a broad range of complex, technical or professional work activities performed in a wide variety of contexts and with a substantial degree of personal responsibility and autonomy. Responsibility for the work of others and the allocation of resources are often a requirement. The individual is capable of self-directed application, exhibits problem solving, planning, designing and supervisory capabilities.

Level 4 – Technical Specialist and Middle Management Occupations:

Recognises competence involving the application of a range of fundamental principles and complex techniques across a wide and unpredictable variety of contexts. Requires very substantial personal autonomy and often significant responsibility for the work of others and for the allocation of resources, as well as personal accountabilities for analysis, diagnosis, design, planning, execution, and evaluation.

Level 5 – Chartered, Professional and Senior Management Occupations:

Recognises the ability to exercise personal professional responsibility for the design, development or improvement of a product, process, system or service. Recognises technical and management competencies at the highest level and includes those who have occupied positions of the highest responsibility and made outstanding contribution to the promotion and practice of their occupation.

External Verifier

Person trained and appointed by the TVET Council and competent to approve and ensure and approved centre's quality of provision.

Extracted workplace examples

This could be something produced during the normal course of work, which can be used for evidence purposes such as reports, menus, promotional literature, training plans, etc.

Hazard

See Safety and Health

Internal Verifier

The Internal Verifiers act in a supporting role for Assessors and ensure consistent quality of assessment and competence. Needs to be competent to assess to national standards in the area under assessment.

Key role

Key roles are the broadest descriptions of the activities required in employment. They describe the principle components of work and help shape the standards into a comprehensive structure. This structure is then broken down into further units of competence.

NVQs

National Vocational Qualifications (NVQs) are work-based qualifications that assess someone's competence in a work situation and certify that the individual can perform the work role to the standards expected in employment.

NVQs are based on national occupational standards of competence drawn up by standards-setting bodies known as Industry Lead Bodies. The standards describe the level and breadth of performance that is expected of persons working in the industry or sector which the NVQ covers.

NVQ Coordinator

Within each approved centre/school offering NVQs, there will be a centre contact who takes overall responsibility for the operation and administration of the NVQ system.

Observation

Observation of the candidate carrying out his/her job in the workplace is the assessment method recommended in the vast majority of units and elements. Observation of staff carrying out their duties is something that most supervisors and managers do every day.

Performance criteria

Performance criteria indicate what is required for the successful achievement of an element. They are descriptions of what you would expect to see in competent performance.

Performance evidence

Performance evidence is evidence, which either shows how the candidate carried out real work, or takes the form of the product (or result) of real work undertaken by the candidate.

Product of work

This could be items produced during the normal course of work, which can be used for evidence purposes such as reports, menus, promotional literature, training plans, etc.

Questioning

Questioning can sometimes be used to assess a candidate in those areas of work listed in the range which cannot be assessed by observation. Guidance on when this assessment method can be used is given in the assessment guidance of each individual element.

Questioning is also one of the most appropriate ways you will be able to collect evidence to assess a candidate's underpinning knowledge and understanding.

As an assessment method, questioning ensures you have all of the evidence about a candidate's performance. It also allows you to clarify situations.

Range statements

A range puts the element of competence into context. A range statement is a description of the range of situations to which an element and its performance criteria is intended to apply.

Range statements are prescriptive therefore each category must be assessed.

Risk

See Safety and Health

Role-plays

Role-plays are simulations where the candidate is asked to act out a situation in the way he/she considers "real" people would behave. By using role-play situations to assess a candidate you are able to collect evidence and make a judgment about how the candidate is most likely to perform. This may be necessary if the range specified includes a situation in which the candidate is unlikely to find himself/herself, or where the candidate needs to develop competence, for example, in a disciplinary situation, before being judged competently.

Safety and Health

Key words and phrases which you might see used frequently within the Safety and Health for People at Work units.

The Labour Department is the body appointed to support and enforce safety and health law. They have defined two important concepts and follows:

Hazard ‘ “a hazard is something with potential to cause harm”.

Risk “a risk is the likelihood of that harm occurring”.

Almost anything maybe a hazard, but may or may not become a risk. For example:

1. A trailing electric cable from a piece of equipment is a hazard. If it is trailing across a passageway there is a high risk of someone tripping over it, but if it lies along a wall out of the way, the risk is much less.
2. Toxic or flammable chemicals stored in a building are a hazard, and by their nature may present a high risk. However, if they are kept in a properly designed secure store, and handled by properly trained and equipped people, the risk is much less than if they are left about in a busy workshop for anyone to use or misuse.
3. A failed light bulb is a hazard. If it is just one bulb out of many in a room it presents very little risk, but if it is the only light on a stairwell, it is a very high risk. Changing the bulb may be a high risk, if it is high up, or if the power has been left on, or low risk if it is in a table lamp which has been unplugged.
4. A box of heavy material is a hazard. It presents a higher risk to someone who lifts it manually than if a mechanical handling device is properly used.

Simulations

Where possible, assessment should always be carried out by observing **natural performance** in the workplace. **Simulated performance**, however, can be used where specified to collect evidence about an aspect of the candidate’s work which occurs infrequently or is potentially hazardous; for example, dealing with fires.

By designing the simulated situation, briefing the candidate and observing his/her performance, you will be able to elicit evidence which will help you judge how a candidate is **most likely** to perform in real life.

Supplementary evidence

Supplementary evidence can be used to confirm and support performance evidence. Types of supplementary evidence include: records of candidate's answers to questions asked by the assessor to confirm the candidate's competence; records of questioning to confirm details contained within the witness testimonies; simulation (see note in glossary)

Underpinning knowledge

Underpinning knowledge indicates what knowledge is essential for a person to possess in order to successfully achieve an element and prove total competence.

Units

A unit of competence describes one or more activities which form a significant part of a person's work. Units are accredited separately but in combination can make up a vocational qualification. There are three categories of units:

Mandatory units – are core to a qualification and have to be completed.

Elective units – within some qualifications which allow the candidate to choose a number of individual units from a specific group.

Additional units – are units which do not have to be completed to achieve a qualification.

Work-based projects

Work-based projects are a useful way for you to collect evidence to support any decision you make about a candidate's performance. They are particularly appropriate in determining the level of a candidate's underpinning knowledge and understanding where it may be insufficient to rely only on questioning observation.

A project often involves the identification of a solution to a specific problem identified by you and/or the candidate (such as looking at ways to redress a recent drop in sales), or may be a

structured programme of work built around a central situation or idea (such as the introduction of a new job rostering process).

ICT Key Words

Address Book

Usually supplied as part of your Email software. An address book in this sense is used to keep a record of all the email addresses of people whom you may wish to contact by email.

Animation

The display of a sequence of images in a computer program or on a Web page to give the impression of movement.

Application

A computer program or a suite of computer programs that perform a particular function for the user, such as a word-processor, e.g. Microsoft Word, or a range of functions, such as Microsoft Windows or Microsoft Office. See Computer Program, Operating System, Windows, and Word-processor.

Attachment

A term used in connection with Email. An attachment can be a file of almost any kind - a document file, an image file, a sound file or a video clip - that you can add, i.e. attach, to an email.

Anti-virus Software: See Virus

Bandwidth

The amount of data that can be sent from one computer to another through a particular connection in a certain amount of time, e.g. via a computer to the Internet and vice versa. The more bandwidth available, the faster you are able to access information. Bandwidth is usually measured in kilobits per second (Kbps) or megabits per second (Mbps).

Bitmap:

BMP: Abbreviation for Bitmap, a file format for storing images. This is the standard format used, for example, by Windows Paint. BMP image files occupy quite a lot of space compared to other formats. A computer graphic or image composed of thousands of individual dots or pixels, each pixel being stored as a number. The image is displayed by specifying the colour of each pixel. Bit-mapped graphics can be imported into other applications, e.g. a word-processor, but they cannot be edited within these applications. When bit-mapped graphics are resized they usually suffer a loss of sharpness, whereas vector graphics can be resized without such loss.

Bookmark

A bookmark is a facility within a Browser that enables you to keep a record of Web pages that you have visited and may wish to visit again. Bookmarks are stored in a subdirectory of the Windows directory on your computer. In Internet Explorer bookmarks are known as Favorites (sic - spelt the American way), which is also the name of the subdirectory in which they are stored. Bookmarks are also used to mark positions in a Word document, i.e. positions to which you can jump from other points in the document by clicking on them with the Mouse.

Browser

A software package installed on the hard disk of your computer that enables you to access and to navigate the World Wide Web - to "surf the Web" in colloquial terms. Internet Explorer and Netscape are two browsers that are in widespread use.

CD-ROM

Abbreviation for Compact Disk Read Only Memory. A CD-ROM is an Optical Disk on to which data has been written via a laser - a process often referred to as "burning a CD": A CD-ROM looks much the same as an audio CD, but can contain text, sound, pictures and motion video. Once written, the data on a CD-ROM can be fixed and rendered unalterable, hence the term read-only - but modern computers are usually equipped with a read/write CD-ROM drive that enables new material to be stored on a special kind of CD-ROM: CD-R (recordable) or CD-RW (rewriteable).

Data

Strictly speaking the plural of "datum", but now usually considered as a collective noun in the singular, with the plural form "data items" or "items of data". Data is information in a form which can be processed by a computer. It is usually distinguished from a computer program, which is a set of instructions that a computer carries out. Data can be text or sets of figures on which a computer program operates.

Database:

A structured collection of data that can be used for a variety of purposes. A database may contain data relating to staff employed by a company or to students at an educational institution. In order to set up and manage an electronic database you need a database program such as Microsoft Access.

Desktop Publishing (DTP)

An Application for laying out text, graphics and pictures in order to produce a professional-looking publication. Most modern word-processors can now achieve what older DTP packages were capable of producing. Examples of DTP applications are QuarkXpress and PageMaker, which have probably become too complex and technical for the inexperienced user and are now aimed at the professional graphic designer or layout artist.

Digital Camera

A camera used for taking still photographs - but some digital cameras can also record short sequences of moving images. A digital camera looks much the same as an ordinary camera but stores photographs in electronic format so that they can be uploaded onto a computer. The more expensive digital cameras achieve better results than can be achieved by using an ordinary camera and a scanner.

Domain Name:

A unique name that identifies a Website. A domain name can be purchased from and registered by a domain name registration company.

Email:

Contraction of Electronic Mail. A system for creating, sending and receiving messages via the Internet. In order to send and receive email messages you have to register with an Internet Service Provider (ISP) that provides an email service and have email software such as Outlook or Eudora installed on your computer. Many ISPs also offer a Webmail facility, which provides an alternative means of creating, sending and receiving email messages using your Web Browser.

Ergonomics:

Ergonomics is the process of changing the work environment (equipment, furniture, pace of work, etc.) to fit the physical requirements and limitations of employees, rather than forcing workers to adapt to jobs that can, over time, have a debilitating effect on their physical well-being.

File:

A file in computer jargon can be used to describe many different things. It may be a Computer Program, a document file created with a Word-processor, an image file, an audio file, a video file, etc. Think of it in the same way as you would think of a file in a filing cabinet. A file has a name that describes what it is, and the file is stored in a place where you can easily find it. Files are usually grouped together on a computer's Hard Disk in directories or folders and, as well as their names, they usually have a three-letter Extension that tell you what their function is or what they contain, e.g. fwtt.exe is a program, mystory.doc is a Word document, sally.jpg is a picture, and mydog.mpg is a video file. Files may also be stored on other Storage Media, such as CD-ROMs, DVDs and flash drives

Flash Drive

A portable Storage Device. Flash drives look like a small flat pen, around 5cm to 10cm long, and are easily carried in your pocket. Their storage capacity is impressive; 10GB is not unusual these days. They are used to store data that you wish to carry around, e.g. a PowerPoint presentation, and they can be plugged into any computer with a USB socket. Flash drives are also commonly referred to as pen drives or memory sticks.

FTP

Abbreviation for File Transfer Protocol. This is the method, i.e. a software standard, used for transferring files from one computer to another via the Internet. FTP is also used as a verb in the sense "to transfer" (a file).

Hardcopy or Hard Copy

Printed output from a computer, as opposed to output on screen.

Hardware

The physical elements of a computer system - the bits you can see, touch, drop, kick or fall over. Contrasted with Software.

Hazard

A hazard is something with the potential to cause harm.

Host Name or Hostname:

A host name is the unique name of a computer on the Internet, which is normally written as a series of letters, for example www.hull.ac.uk. A host name is the human-friendly form of the host's numerical IP address, i.e. it's an alias for the "real" Internet address of the host computer, e.g. 150.237.176.24.

HTML

Abbreviation for Hypertext Markup Language. The coding system used for creating pages on the World Wide Web. HTML enables the author to control how the page appears and to insert Hypertext links within one Web page or to other pages anywhere on the Web. Nowadays most Web authors and designers use an Authoring Tool such as Front Page or Dreamweaver to create World Wide Web pages.

HTTP

Abbreviation for Hypertext Transfer Protocol. The transfer method (protocol) used by the World Wide Web to transmit and receive Web pages. This abbreviation normally precedes the name of a website, e.g. <http://www.ict4t.org>, to tell your computer that this is the way in which you wish to communicate with other computers on the Internet.

Hyperlink

A contraction of hypertext link, the essence of Hypertext and the HTML language used for creating pages on the World Wide Web. In a Web document a hyperlink can be a sequence of letters or an image. By clicking on the area designated as a hyperlink by the person who created the Web page, it is possible to jump quickly to another part of the page, a different page on the same website, or to a completely different website. Hyperlinks can also be inserted into a Word document, enabling the reader to jump from one point in the document to another, or out of the document to a website.

Hypertext

A system for the non-sequential presentation of text, the fundamental concept of the World Wide Web, whereby the user can jump from one part of a text to another, from one Web page to another, or from one website to another, by clicking on highlighted (and usually underlined) hyperlinks.

ICT

ICT: Abbreviation for Information and Communications Technologies.

Input

Anything that goes into a computer in order to be processed and/or stored. Also used as a verb.

Input Device

Any device that is capable of inputting information into a computer system, e.g. a Keyboard, Microphone, Mouse or Scanner.

Internet

The Internet, or simply "the Net", is a computer network connecting millions of computers all over the world. It provides communications to governments, businesses, universities, schools and homes. Any modern computer can be connected to the Internet using existing communications systems. Schools and universities normally access the Internet via their own educational networks, but private individuals usually have to take out a subscription with an Internet Service Provider (ISP). Although the Internet is in fact a network of networks, it appears to users as a network of individual computers.

Internet Service Provider (ISP)

A company that provides a subscription service to enable you to access the Internet. An ISP has a network of computers permanently linked to the Internet. When you take out a subscription with an ISP they link your computer to their network, usually via an existing telephone line, but dedicated lines are also provided by some ISPs. ISPs also give you an Email address and space on the World Wide Web for setting up your own website.

Intranet:

A private network inside a company or educational organisation and used over its LAN (Local Area Network). A sort of local Internet. Contrasted with Internet, which is publicly available.

IP Address:

Short for Internet Protocol Address. The unique numerical address of a computer on the Internet, expressed as four sets of numbers (maximum 3 digits each) separated by dots: e.g. 150.237.176.24 for one of the computers at the University of Hull - where the ICT4LT website is located. Computers on the Internet are nearly always referred to by more memorable domain names, which are mapped onto their IP addresses by special Internet computers known as name servers.

JPEG or JPG

Abbreviation for Joint Photographic Expert Group. Pronounced "Jaypeg". A file format used for storing images. The JPEG/JPG format uses a palette of millions of colours and is primarily intended for photographic images. JPEG/JPG files are commonly used for storing images on the Web.

LAN:

Abbreviation for Local Area Network. A Network of computers at one site that provides services to other computers connected to it.

Navigation:

This describes the process of finding your way, i.e. navigating, around a series of menus within a computer program or finding your way around the World Wide Web by means of a Browser.

Netiquette

Etiquette on the Internet. A code of behaviour for people communicating by email via the Internet.

Network

A group of computers connected together, either by physical connections such as cables, or by wireless connections (see Wi-Fi). The Internet is a worldwide network of computers to which virtually any computer can be connected.

PDF

An abbreviation for Portable Document Format. This is a file type created by Adobe that allows fully formatted, documents to be transmitted across the Internet and viewed on any computer that has Adobe Acrobat Reader software.

Peripheral Device

Often abbreviated to peripheral. Virtually any device which can be connected to a computer. This term includes modems, printers, scanners, interactive whiteboards, etc.

Pixel:

A contraction of picture element. What you see on a computer Display Screen is made up of thousands of coloured pixels or small dots.

Presentation Program / Presentation Software

Used to describe software such as PowerPoint, part of the Microsoft Office suite of programs. Presentation Software is used in conjunction with a Data Projector and a wall screen or Interactive Whiteboard in order to display a series of slides relating to a business presentation, a lesson or lecture.

Risk

A risk is the likelihood of harm occurring or exposure to the chance of injury or loss; a hazard or dangerous chance.

Search Engine

A search facility provided at a number of sites on the World Wide Web. Search engines enable the user to search the whole of the Web for key words and phrases and to locate related websites. This is a useful facility for locating information. Commonly used search engines are provided by Alta Vista, Ask, Google, Lycos and Yahoo.

Server

A computer which provides services to other computers, which are known as clients. For example, when you click on a link in a Web page your Browser sends a request to a remote computer, known as a Web Server, which serves the requested page to your browser, which then displays it on your computer screen. A Local Area Network (LAN) has a server that delivers software to the computers (also known as workstations) that are connected to it. It is usually the most powerful computer in the network. Users connected to a LAN can access their own files remotely and exchange information with the server and other users connected to the network.

Software

The opposite to Hardware. A generic term describing all kinds of computer programs, applications and operating systems. Software is not tangible, being a set of instructions written in a Programming Language comprising a set of instructions that the computer executes.

Spellchecker or Spell-checker

An electronic dictionary, usually part of a Word-processor, which scans the text entered by the user and highlights any word that it does not recognise. The author of the text is then given the option to correct, ignore or add any highlighted word to the dictionary. Spellcheckers can be set to accommodate different varieties of a language, e.g. British or American English, and many other languages. Many email packages also include a spellchecker.

Spreadsheet

An electronic accounting program. Such programs like Microsoft Excel can also be used for purposes other than those which relate to accounting practices.

Storage Device

Equipment used for accessing and recording (i.e. storing) computer programs, texts, images, audio recordings and video recordings, etc. The term Storage Medium refers to the actual material used for storing such information, although a Flash Drive, for example, could be referred to both as a storage device and as a storage medium.

Storage Medium (sing.) / Storage Media (pl.)

A medium (pl. media) which is used to record (i.e. store) computer programs, texts, images, audio recordings and video recordings, etc. The term Storage Device refers to the equipment used for accessing and recording (i.e. storing) such information. Examples of storage media include CD-ROMs, DVDs, Floppy Disks and Hard Disks.

TCP/IP

Abbreviation for Transfer Control Protocol / Internet Protocol. The main data transfer protocol used on the Internet. See Internet.

TIFF or TIF

Abbreviation for Tag Image File Format. A file format for storing images on a computer. TIFF files can store very high-quality images with millions of colours, but they are very demanding in terms of storage space.

Trackball or Tracker Ball

A Pointing Device. A sort of upside-down Mouse, with the ball facing upwards. The user manipulates the track of the Cursor on the screen by moving the ball with the palm of the hand or fingers.

Upload

To transfer a copy of a computer program, a text file, an image file, a sound file or a video file from one computer to another computer. This term can also be used to describe the process of: (i) transferring a photograph from a digital camera to a computer, (ii) transferring a sound recording from a digital sound recorder to a computer, and (iii) transferring a video recording from a Camcorder or Digital Camera to a computer.

URL:

Abbreviation for Uniform Resource Locator. Also known as a Web Address. A URL contains the location of a resource on the Internet. A URL specifies the address of the computer where the resource is located, which may be the homepage of a website, e.g. <http://www.ict4lt.org>, or a sub-page, e.g. http://www.ict4lt.org/en/en_mod2-1.htm. The <http://> prefix can usually be omitted from a URL when it is entered in a Browser.

Vector Graphic

A method of creating graphic images on a computer by telling it to draw lines in particular positions. An advantage of a vector graphic is that it can be enlarged or reduced in size without loss of sharpness or distortion. Most modern image creation and editing packages can save images in vector graphic format. Vector graphics can be contrasted with bit-mapped graphics, which are made of a fixed number of pixels (small dots), and therefore sharpness may be lost when the image is resized.

Virus

A virus is an illicit program. If you surf the Web, use email or floppy disks sent to you by other people, you need to be protected against virus invasions. Viruses can be highly contagious, finding their way onto your computer's hard drive without your being aware of it and causing considerable damage to the software and data stored on it. Viruses can be contracted from files attached to email messages, e.g. Microsoft Word files, or direct from the Web. Be very wary of opening an email attachment of...

...unknown origin, as this is the commonest way of spreading viruses. Software used to protect your computer against the invasion of computer viruses is known as anti-virus software.

WAN

Abbreviation for Wide Area Network. A network of computers located at geographically separate sites. See LAN, MAN.

Webmail:

A facility for creating, sending and receiving messages via the Internet. Webmail offers an alternative to using email software such as Outlook or Eudora: see Email. In order to use webmail you have to register with an Internet Service Provider (ISP) and you can then access their email service via your Web Browser.

Website

An area on the World Wide Web where an organisation or individual stores a collection of pages of material - Web pages. The pages are usually interlinked with one another and with other websites. Every website has a unique Web Address or URL.

Word-processor

Probably the most widely used computer application program. Modern word-processors allow the user to create fine-looking documents including images, tables, photographs, and even sound and video recordings if they are to be viewed on screen rather than from the printed page. In many respects they are similar to Desktop Publishing applications. Word-processors normally include a spellchecker, a grammar checker, a style checker and a thesaurus, as well as tools for writing in HTML, the coding language used for producing Web pages. Word-processors have been widely used in teaching and learning foreign languages ever since they first appeared.

World Wide Web

Usually referred to simply as the Web. This is the most powerful and fastest growing Internet service. The World Wide Web was the brainchild of Tim Berners-Lee, who in 1989 invented the HTML coding language that is the basis of the Web. The Web became a public service in 1993. It is a huge collection of resources of information, including learning materials, which is accessed by means of a computer program known as a Browser. The World Wide Web is only part of the Internet, but many people treat both terms as synonyms.

XML

Abbreviation for extensible Markup Language. XML is a specification emanating from the World Wide Web Consortium (W3C) that allows Web designers to create their own language for displaying documents on the Web. XML is an extension to the standard language for creating Web pages, HTML, and makes it possible to create websites containing more complex interactivity.

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