e-skills uk

The Sector Skills Council for
IT • Telecoms • Contact Centres

# Standards for IT Users

Approved by UKCG on 27th November

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skills FOR BUSINESS

# Contents

# Introduction

National occupational standards (NOS) are intended to support workforce development by identifying the skills, knowledge and understanding needed in employment and clearly defining the outcomes of competent performance. A significant part of this support for workforce development involves informing the content and design of vocational qualifications. They can also be extensively used for training, appraisal, recruitment and retention planning.

In practice national occupational standards and National and Scottish Vocational Qualifications (N&SVQs) have become inextricably mixed to the detriment of the other uses. These other uses are potentially very varied and a number of examples are given in Appendix 1.

Take up of IT N&SVQs has historically been disappointing in relation to the number of potential candidates. These qualifications have been competing against in-house training, vendor awards and taught FE/HE provision and a perception that they are over-bureaucratic, time-consuming and costly to achieve.

These new Using IT standards are one outcome of a review project covering all of the e-skills UK standards. In order to address the above barriers to standards use and qualification take-up the remit for the project required e-skills UK to:

Produce **National Occupational Standards** which:

- are directly usable by employers (both corporate and SME);
- are suited for qualification and other uses;
- are simple and easy to understand;
- match real job profiles; and
- allow for simplification of assessment when used within qualifications.

We have attempted to achieve this by:

- using a radically different format to present the new standards;
- producing standards not qualifications; and
- adopting a flexible, innovative approach to development and consultation by making use of Information and Communication Technology.

## Format of standards

The format of these standards is designed to convey the critical aspects of occupational competence in a succinct and accessible manner. This is in accordance with current thinking on the future shape of NOS. The primary delivery mechanism is intended to be electronic – web or CD-ROM based with built-in on-demand generation of printable versions.

There has been recent extensive consultation with over 900 individual employers and employees during the development of e-skills IT user skills framework. This provided valuable feedback not only on the content but also style of writing and level of detail necessary to specify competence. This strongly supported a format in which several levels were visible and could be related one to the other. This helps clarify levels in a way which is not possible when comparing separate documents.

Although the NOS are presented differently to reflect their wider audience critical aspects of the user skills framework have informed the design of the NOS. These are:

- use of simple language using everyday terms for using IT, rather than technical language;
- short and clear descriptions, that do not attempt to set out a ‘syllabus’ ;
- examples of skills and techniques and knowledge and understanding drawn from day-to-day activities;
- lack of unnecessary repetition, and
- a format that allows different levels to be easily compared and contrasted.

The standards are presented as high level statements without the fine detail contained in current NOS. Expanded information is provided using hyperlinks. This approach has been essential to making the standards directly usable by employers and others by:

- presenting the standards in a manageable size; and
- eliminating the unconventional language of many existing standards.

In addition a degree of future proofing has been made possible by this approach.

The standards are presented in a way which shows competence at all levels of a discrete functional area. (These are referred to as Areas of Competence (AOC) – see below for a further description.) This approach makes it straightforward to identify progression and to place employees/candidates at appropriate levels within the functional area.

Expanded information on necessary knowledge and skills is contained in components which are referenced by hyper-links from the main text. These components can be common to a number of AOC potentially reducing assessment load and avoiding unnecessary repetition.

The ramifications for awarding body qualifications of these changes to the format of standards are expanded on in the separate qualification structure document.

## A guide to AOC and units

The standards are written in the form of Areas of Competence (AOC). AOC are different from units. AOC describe competence at a number of relevant levels; a unit describes competence at a particular level. AOC and units have related titles and use the terms foundation, intermediate and advanced to denote levels 1, 2 and 3 respectively. For example, the units derived from the AOC about security are called at level 1 'IT security for users (Foundation)'; at level 2 'IT security for users (Intermediate)' and at level 3 'IT security for users (Advanced)'.

S/NVQs will be made up from units derived from the AOC set out in the NOS for Using IT.

**IT security for users**

**Title**
Describes what the AOC is about.

This is the ability to protect hardware, software and the data stored within an IT system.
**A level 1 job role is likely to involve:**
- knowing about day-to-day security risks and the laws and guidelines that effect the use of IT; and
- using simple methods to protect software and personal data (eg risks from the wrong people getting access to it, from viruses or fron hardware not working properly).

**In addition a level 2 job role is likely to involve:**

A brief introduction to the activities or outcomes that are involved. Diagrams may be used to explain processes.

| | The competent person can: | This will involve applying knowledge and understanding of: | This will involve effective use of the following skills and techniques. |
|---|---|---|---|
| **Level 2** | Select and use appropriate methods to keep common security risks to a minimum. | • What common **security risks** there may be.<br>• How to **restrict access**.<br>• What and how **laws and guidelines** affect the use of IT. | • **Protecting** software and data in different ways. |

**Statement of competence**
A grid is used to show the various levels (from 1 to 5) at which competence is defined. Not all levels will be defined for every AOC.

A summary of what a competent person can do at a level.

A list of the key areas of knowledge and understanding needed to underpin competence.

A list of the skills and techniques for competent performance.

| **Laws and guidelines**<br>What laws and guidelines affect people's use of IT. | |
|---|---|
| Level 2 | • What and how different IT activities are affected by laws and guidelines, such as storing names and address, downloading images from the Internet or sending inappropriate e-mails. |
| Level 3 | • What other people need to know about the laws and guidelines that affect using IT.<br>• How to communicate with people about the laws and guidelines. |

Component title and a short description of the knowledge and understanding or skills and techniques to be covered at each level.

A list of items or short paragraphs that set out what needs to be covered at each relevant level.

## Development and consultation methodology

An on-line collaborative authoring environment has been implemented to facilitate the development of these national occupational standards.

As a development tool this environment allows direct entry and formatting of content into a structured database. It also provides secured access control and also version and workflow status control.

As a consultation tool the environment provides unrestricted internet access to the draft standards with an immediate threaded commenting facility. In addition site visitors can download a pdf (portable document file) of an AOC or individual unit.

The technology behind this is built on the Zope application framework, an open-source web application system. The user interface is built with Zope's dynamic page-creation language DTML with HTML, CSS and Javascript for some of the DHTML aspects. Business logic is written in the programming language Python and in SQL. The underlying storage is provided by the database system MySQL.

## Main and export AOC

The use of IT and communication technologies in all industry sectors has resulted in e-skills units being incorporated in qualifications developed by other sectors. The units used in this way, drawn from the current e-skills N&SVQs, were not specifically designed for this purpose. As a result, when used as single imported units, they tend to have a narrow focus on particular applications (e.g. word processing or spreadsheets) and miss the broader aspects of competent use of IT.

At consultation there was substantial support for the concept of developing transferable units with an increased breadth of coverage that would be suitable both for use within qualifications developed by other sectors and potentially as freestanding units for unit certification.

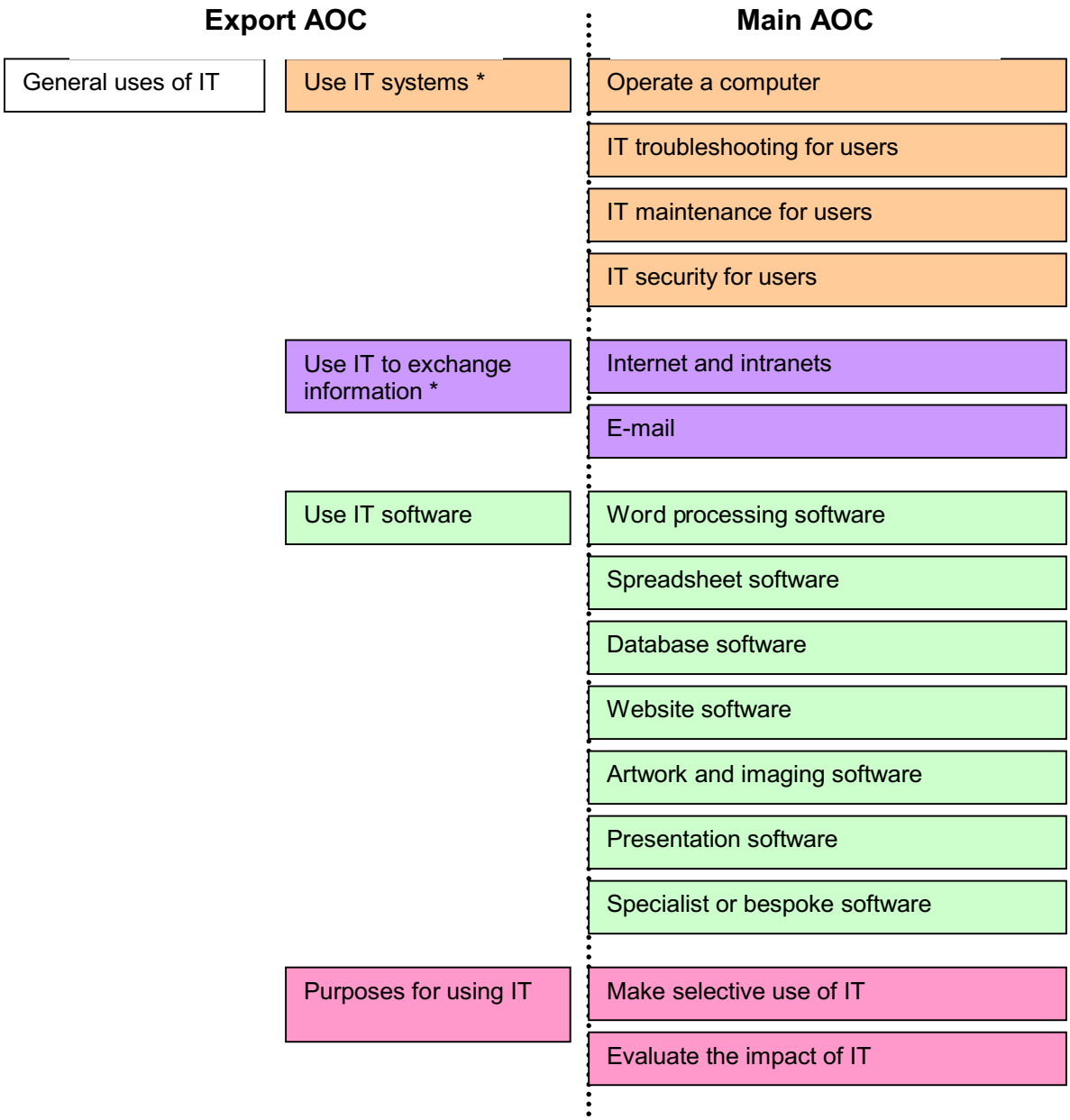
The National Occupational Standards for Using IT are therefore split into two types.

1. Main Areas of Competence (AOC) – that provide a detailed description of specific skills, suitable for people who want to develop or assess a wide range of competences in Using IT;

2. AOC for Export – that provide a more generalised description of skills, suitable for people who want to develop or assess a more limited range of competences. These export AOC are designed to be suitable for use by other sectors

The diagram overleaf shows the links between the five export standards and the fourteen main standards.

## Relationship between export and main AOC for Using IT




* 'Use IT systems' and 'Use IT to exchange information' will be included in the Using IT N&SVQ qualification structure.

# Main Areas of Competence

# Make selective use of IT

This is the ability to determine the appropriate use of IT in a variety of settings, such as a home, work, school or other environment.

**A level 1 job role is likely to involve:**

- working out how to use IT for simple tasks (eg producing a letter, making a slide for a presentation, recording spending, keeping addresses, sending a message or drawing boxes and arrows to highlight information).

**In addition a level 2 job role is likely to involve:**

- working out how to use IT for more complex tasks (eg producing a business letter, working out a monthly budget, creating a presentation with a sound track, editing a photo for a brochure or planning multiple web pages for a web site).

**In addition a level 3 job role is likely to involve:**

- working out how to use IT for technically complex tasks (eg creating an illustrated newsletter, doing a cost benefit analysis, reporting the results of a survey about clients needs and preferences or creating an interactive web site).

| The competent person can: | This will involve applying knowledge and understanding of: | This will involve effective use of the following skills and techniques: |
|---|---|---|
| **Level 1**<br>Work out how to use IT for simple tasks and purposes. | • What the **purposes** for using IT are and how to judge whether the IT system or software was appropriate.<br>• How to **produce information** that is suitable.<br>• What and how to use the correct **terms for IT** being used. | • **Explaining** the use of IT.<br>• **Finding and evaluating** information.<br>• **Organising** information.<br>• **Reviewing** own use of IT. |
| **Level 2**<br>Work out how to use IT effectively for more complex tasks and purposes, taking account of their own skills and capabilities. | • What and how appropriate the **purposes** for using IT are.<br>• How to **produce information** that is clear and appropriate.<br>• What and how to use appropriate **terms for IT** that may be used. | • **Explaining** decisions and actions taken about using IT.<br>• **Finding and evaluating** information using appropriate methods.<br>• **Organising** information.<br>• **Reviewing** own use of IT and feedback from others. |
| **Level 3**<br>Work out how to use IT effectively for technically complex tasks and purposes, taking account of their own and others skills and capabilities and the needs of the organisation. | • What the **purposes** for using IT are and how to improve its use.<br>• How to **produce information** that is well structured and fit for purpose.<br>• How to help others use appropriate **terms for IT**. | • **Explaining** and analysing the effectiveness of the use of IT.<br>• **Finding and evaluating** and verifying information.<br>• **Organising** complex information.<br>• **Reviewing** feedback on and impact of own use of IT |

## Knowledge and understanding

| **Purposes**<br>What the purposes for using IT are and how to judge whether the IT system and software chosen was appropriate. | |
|---|---|
| Level 1 | Why the IT system and software that was used was appropriate for the task. |
| Level 2 | Why and how using the IT system and software was an appropriate way of carrying out the task. |
| Level 3 | What changes could be made to the way that the IT system and software was used to make tasks that are similar, easier or more successful in the future. |

| **Produce information**<br>How to produce information that communicates effectively and accurately, taking into account time, content, meaning and organisation of the information and the needs of the audience. | |
|---|---|
| Level 1 | Know who and what the information is for, where it will be used (eg on screen or hard copy) and when it is needed. |
| Level 2 | How to produce information that communicates clearly and accurately with the audience, where and when it is needed. |
| Level 3 | How to produce information that communicates effectively, by structuring the content to take account of different contexts and audience needs. |

| **Terms for IT**<br>What the correct terms for IT hardware, software and particular tasks are and how to use them. | |
|---|---|
| Level 1 | What and how to use the correct terms for:<br>• types of hardware being used; and<br>• basic tools and techniques in software being used. |
| Level 2 | What and how to use a wide range of correct terms for hardware and software, such as “web-cam” and “netiquette”. |
| Level 3 | What IT terms others may find difficult to understand.<br>How to explain IT terms simply to others. |

## Skills and techniques

| **Explaining (use of IT)**<br>Explaining decisions and actions about using IT. | |
|---|---|
| Level 1 | Describing what you are doing.<br>Giving simple reasons for choosing and using software tools and techniques that match tasks and uses. |
| Level 2 | Explaining which software tools and techniques were chosen and how effectively they were used for particular tasks and uses. |
| Level 3 | Analysing 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.<br>Identifying changes that could make similar tasks and purposes easier or more successful. |

| **Finding and evaluating**<br>Ways of finding and evaluating information. | |
|---|---|
| Level 1 | Choosing the source that is most likely to provide the information needed.<br>Locating information from various sources.<br>Choosing information that is appropriate for what is needed. |
| Level 2 | Choosing and using appropriate methods of searching for relevant information.<br>Reviewing sources and information to help choose what is most relevant, and to decide when enough has been found. |
| Level 3 | Verifying information, such as for relevance, bias, validity, reliability and sufficiency.<br>Helping others to find and evaluate information. |

| **Organising**<br>Organising information appropriately for the task. | |
|---|---|
| Level 1 | Choosing and using an appropriate format for organising information when carrying out simple tasks. |
| Level 2 | Using a variety of IT software tools and techniques to structure information to suit more complex tasks and audience needs, such as using large print for partially sighted readers. |
| Level 3 | Using the full range of IT software tools and techniques to structure information to suit complex tasks and different audience needs. |

| **Reviewing**<br>Reviewing the effectiveness and appropriateness of own use of IT. | |
|---|---|
| Level 1 | Identifying the effect that own mistakes have on other people at work, with help and advice from other people. |
| Level 2 | Evaluating own strengths and weaknesses in using IT.<br>Taking account of feedback from other people about own use of IT. |
| Level 3 | Reviewing how to share own skills and understanding to help others.<br>Evaluating feedback given on work produced and taking steps to improve any weaknesses.<br>Analysing the impact own work could have on other people or the organisation. |

# Operate a computer

This is the ability to carry out the initial steps in using an IT system (eg turning on a personal computer (PC) and using a mouse to navigate around a screen); and operate hardware and software day-to-day (eg a PC or personal digital assistant (PDA), operating systems and software that is suitable for the task in hand).

**A level 1 job role is likely to involve:**
- setting up and using an IT system safely (eg keyboard, mouse, screen and printer); and
- using common types of software for simple tasks (eg producing a letter or sending an e-mail).

**In addition a level 2 job role is likely to involve:**
- setting up and using a wider range of different types of hardware safely (eg lap top, PDA, external disc drive, digital camera, web cam or scanner), storage media (eg floppy disc, CD-ROM, DVD, local area network (LAN) or wide area network (WAN)); and
- using software for more complex tasks (eg keeping a project budget, editing a photo for a brochure).

**In addition a level 3 job role is likely to involve:**
- installing upgrades to hardware, operating systems and software safely; and
- getting the best out of software for complex tasks.

| The competent person can: | This will involve applying knowledge and understanding of: | This will involve effective use of the following skills and techniques: |
|---|---|---|
| **Level 1**<br>Carry out the initial steps needed to use a computer, and make use of common types of hardware and software. | • What common **types of computer hardware** are and how to use them.<br>• What the software **tools and functions** are and how to use them.<br>• The **health and safety** issues of using IT. | • **Setting up** a computer.<br>• **Accessing** files on a computer.<br>• Using basic software **tools and techniques**. |
| **Level 2**<br>Use most types of hardware, software and storage media effectively. | • What most **types of computer hardware** are and how to use them.<br>• What most software **tools and functions** can be used for and how to use them.<br>• How to identify **health and safety issues** in using IT.<br>• The need to make sure that hardware and software are **compatible**.<br>• How **data transmission speeds** vary. | • **Setting up** most types of hardware safely.<br>• **Accessing** data.<br>• Using common **storage media**.<br>• Using common software **tools and techniques**. |
| **Level 3**<br>Get the most effective performance out of different types of hardware, software and storage media. | • What most **types of computer hardware** are and how to get the best out of them.<br>• How to exploit the capabilities of most of the **tools and functions** of software applications.<br>• How to help others to identify **health and safety issues** in using IT.<br>• Ways to make sure that hardware and software are **compatible**.<br>• The effects of **data transmission speeds**. | • **Setting up** most types of hardware safely.<br>• **Accessing** data and network software.<br>• Using most types of **storage media**.<br>• Using a wide range of software **tools and techniques** efficiently.<br>• **Customising** most types of software.<br>• **Installing** operating system upgrades, hardware and other components. |

## Knowledge and understanding

| **Types of computer hardware**<br>What different types of computer hardware are and how to use them. | |
|---|---|
| Level 1 | What common types of computer hardware are.<br>How to start up a computer.<br>How to use common types of hardware. |
| Level 2 | What most types of computer hardware are.<br>What storage media are available, such as hard disc, floppy discs or CD ROMs.<br>How to use most types of hardware and storage media. |
| Level 3 | How to choose, use and connect appropriate combinations of hardware. |

| **Tools and functions**<br>What the tools and functions of software can do. | |
|---|---|
| Level 1 | What the basic tools and functions of software applications can be used for.<br>How to choose and use appropriate tools and functions for simple tasks. |
| Level 2 | What most tools and functions of the software applications can be used for.<br>How to select and use appropriate tools and functions for more complex tasks. |
| Level 3 | How to exploit the capabilities of most of the tools and functions of software applications. |

| **Health and safety issues**<br>The health and safety issues involved in using IT. | |
|---|---|
| Level 1 | Health and safety risks to self in using IT.<br>Health and safety risks to others from common hardware.<br>What health and safety laws and guidelines affect the use of IT. |
| Level 2 | Ways to keep risks to people to a minimum.<br>Ways to keep risks to hardware to a minimum. |
| Level 3 | How to explain health and safety risks to others.<br>What action can be taken to avoid health and safety risks to other people and hardware. |

| **Compatibility**<br>Why and how to make sure that hardware and software are compatible. | |
|---|---|
| Level 1 | Not applicable |
| Level 2 | What problems can occur when hardware, software and operating systems are not compatible.<br>Why compatibility standards are needed. |
| Level 3 | What compatibility issues may be caused by the interaction of hardware, software and operating systems.<br>How to avoid compatibility issues. |

| **Data transmission speeds**<br>Why and how data transmission speeds vary, such as between modem and network, floppy and CD ROM, or parallel and USB connections. | |
|---|---|
| Level 1 | Not applicable |
| Level 2 | What general combinations of hardware and software offer very slow or fast transmission speeds. |
| Level 3 | How much data transmission speeds vary.<br>What effect variations have on different ways of transmitting, receiving and saving data. |

## Skills and techniques

| **Setting up**<br>Setting up computer hardware and storage media. | |
|---|---|
| Level 1 | Turning on and use a personal computer (PC) and printer.<br>Changing basic settings, such as sound volume, date and time. |
| Level 2 | Connecting up a computer with other hardware and storage media safely.<br>Linking a computer to other hardware safely. |
| Level 3 | Connecting up most types of hardware and storage media safely. |

| **Accessing**<br>Accessing files, networks and network software. | |
|---|---|
| Level 1 | Accessing files on a computer hard drive or local storage media. |
| Level 2 | Accessing files on a local area network (LAN) or a wide area network (WAN). |
| Level 3 | Accessing remote networks and network software. |

| **Storage media**<br>Using different storage media to save and transfer data. | |
|---|---|
| Level 1 | Not applicable. |
| Level 2 | Using common storage media.<br>Identifying the best way to transfer files to different types of storage media.<br>Archiving data to making the most of the storage space available. |
| Level 3 | Selecting the most suitable and efficient method and media for storing and transferring data.<br>Taking account of data transmission speeds. |

| **Tools and techniques**<br>Using tools and techniques of different types of software. | |
|---|---|
| Level 1 | Using basic tools and techniques, such as open, close, save and print files in folders. |
| Level 2 | Using common tools and techniques appropriately, such as page set-up, short-cuts and print-preview. |
| Level 3 | Choosing and using wide range of tools and techniques to make the most different software. |

| **Installing**<br>Installing operating system upgrades, other hardware and computer components such as printers, scanners, web cams, graphic and sound cards, music players or voice recognition equipment. | |
|---|---|
| Level 1 | Not applicable |
| Level 2 | Not applicable |
| Level 3 | Installing other hardware and computer components effectively.<br>Installing operating system upgrades effectively. |

| **Customising**<br>Customising software to make it easier to use. | |
|---|---|
| Level 1 | Not applicable |
| Level 2 | Not applicable |
| Level 3 | Customising menus and toolbars in most types of software. |

# IT trouble-shooting for users

This is the ability to solve information technology (IT) hardware errors and errors involving the interaction between hardware and software.

**A level 1 job role is likely to involve:**
- solving common errors (eg a paper jam or file that cannot be found on a computer hard drive), and
- knowing how to restart hardware or software and get advice.

**In addition a level 2 job role is likely to involve:**
- using skills and experience to solve most types of errors (eg faulty cable connections, broken mouse, software that needs more memory to open or damage to software from viruses); and
- knowing about problems to do with compatibility.

**In addition a level 3 job role is likely to involve:**
- solving technically complex errors (eg hard disk wiped, broken graphics card or problems with Internet connections); and
- avoiding compatibility problems.

| The competent person can: | This will involve applying knowledge and understanding of: | This will involve effective use of the following skills and techniques: |
|---|---|---|
| **Level 1**<br>Solve common hardware and software errors, getting help with more difficult problems. | • What common hardware and software **errors** may happen and how to sort them out.<br>• Where to get **advice.** | • **Restarting** common hardware and software using built in tools.<br>• **Correcting errors** by using help menus and manufacturers' guidelines. |
| **Level 2**<br>Solve errors on most types of hardware and software using skills and experience. | • What **errors** may happen on most types of hardware and software and with data.<br>• What **advice** is available and how to get it.<br>• What **compatibility** issues may occur. | • **Restarting** most hardware and software using manufacturers' guidelines.<br>• **Correcting errors** by using methods that have worked in the past. |
| **Level 3**<br>Solve complex or serious technical errors with hardware and software, using a wide range of skills and experience, seeking additional technical information where necessary. | • What technically complex or serious hardware and software **errors** may happen**.**<br>• How to give **advice** to other users.<br>• How to avoid **compatibility** issues**.** | • **Restarting** most hardware and software after complex or serious technical errors.<br>• **Correcting errors** that may involve researching new technical information. |

## Knowledge and understanding

| **Errors**<br>The causes of errors and problems and how to sort them out. | |
|---|---|
| Level 1 | What errors often happen and how to sort them out, to do with common hardware and software.<br>How to get information about the hardware, operating system and software being used that will help an expert to give advice on solving errors. |
| Level 2 | What errors and problems can be corrected from experience, to do with:<br>• most hardware and storage media;<br>• most software;<br>• combinations of hardware and software;<br>• data; and<br>• viruses. |
| Level 3 | What technically complex or serious errors and problems may occur and how to respond to them, to do with:<br>• installing software;<br>• dial-up networking and modem connections;<br>• other ways of connecting to the Internet; and<br>• intermittent errors. |

| **Advice**<br>When and where to seek advice on technical errors and problems. | |
|---|---|
| Level 1 | How to contact an IT help desk or service.<br>How to follow verbal instructions from an IT expert.<br>Recognise there is a problem or error.<br>Recognise the limits of own understanding and skills. |
| Level 2 | Where and how to find advice on common errors with most hardware and software. |
| Level 3 | How to give advice to other users about common errors.<br>Where and how to find advice on more complex or serious technical errors. |

| **Compatibility**<br>Why and how to make sure that hardware and software are compatible. | |
|---|---|
| Level 1 | Not applicable |
| Level 2 | What problems can occur when hardware, software and operating systems are not compatible.<br>Why compatibility standards are needed. |
| Level 3 | What compatibility issues may be caused by the interaction of hardware, software and operating systems.<br>How to avoid compatibility issues. |

## Skills and techniques

| **Restarting**<br>Restarting hardware and software. | |
|---|---|
| Level 1 | Restarting common hardware and software, such as by rebooting. |
| Level 2 | Restarting most hardware and software using tools supplied by the manufacturer. |
| Level 3 | Restarting from complex or serious errors, such as an unrecoverable system failure. |

| **Correcting errors**<br>Correcting errors and problems. | |
|---|---|
| Level 1 | Identifying the cause of common errors.<br>Using available resources to correct errors such as, help menus or manufacturers' guidelines. |
| Level 2 | Choosing and using methods that have worked in the past to correct different types of errors.<br>Checking that errors have been corrected. |
| Level 3 | Collecting information about the problem.<br>Diagnosing technically complex or serious errors correctly.<br>Working out how to correct such errors.<br>Planning how to avoid and correct similar errors in the future. |

# IT maintenance for users

This is the ability keep hardware and software up to date and in proper condition and so that it continues to fulfil the tasks required.

**A level 1 job role is likely to involve:**
- carrying out regular maintenance safely (eg organising files, backing up data in line with organisational guidelines and cleaning computers and printers); and
- knowing how to avoid health and safety risks.

**In addition a level 2 job role is likely to involve:**
- carrying out less common maintenance safely (eg using 'defrag' to improve the performance of a hard disc); and
- knowing what is involved in upgrading hardware and software.

**In addition a level 3 job role is likely to involve:**
- planning regular and less common maintenance and making sure that it is carried out safely, so that the performance of hardware and software is enhanced; and
- understanding the issues, benefits and drawbacks of upgrading hardware and software.

| The competent person can: | This will involve applying knowledge and understanding of: | This will involve effective use of the following skills and techniques: |
|---|---|---|
| **Level 1**<br>Carry out regular routine maintenance of hardware and software safely. | • The importance of routine **maintenance**.<br>• The **health and safety issues** of using IT. | • **Managing files.**<br>• **Cleaning** hardware.<br>• **Avoiding health and safety risks.** |
| **Level 2**<br>Carry out appropriate routine and non-routine maintenance safely, so that hardware and software are kept in good condition and up to date. | • What routine and non-routine **maintenance** can be done and how.<br>• How to identify **health and safety issues** in using IT.<br>• What is involved in **upgrading hardware and software.** | • **Managing files** appropriately.<br>• **Cleaning** hardware.<br>• Identifying and **avoiding health and safety risks**.<br>• **Maintaining** hardware and software. |
| **Level 3**<br>Carry out appropriate maintenance safely, so that the performance of hardware and software is maintained and enhanced. | • What routine and non-routine **maintenance** may be needed and how to plan for it to be undertaken.<br>• How to help others to identify **health and safety issues** in using IT.<br>• Issues, benefits and drawbacks of **upgrading hardware and software.** | • **Managing files** and maintaining performance.<br>• **Cleaning** hardware.<br>• Identifying and **avoiding health and safety risks** to self and others.<br>• **Maintaining** hardware and software efficiently.<br>• **Enhancing performance** of hardware and software. |

## Knowledge and understanding

| **Maintenance**<br>The importance of carrying out IT maintenance. | |
|---|---|
| Level 1 | What maintenance can be done safely – and what should be left to experts.<br>Why routine maintenance is important.<br>What problems may happen if maintenance is not done. |
| Level 2 | What non-routine maintenance may be needed and how to identify when it is necessary.<br>What maintenance professionals will be needed for. |
| Level 3 | What help others may need to carry out maintenance and how to give it to them. |

| **Health and safety issues**<br>The health and safety issues involved in using IT. | |
|---|---|
| Level 1 | Health and safety risks to self in using IT.<br>Health and safety risks to others from common hardware.<br>What health and safety laws and guidelines affect the use of IT. |
| Level 2 | Ways to keep risks to people to a minimum.<br>Ways to keep risks to hardware to a minimum. |
| Level 3 | How to explain health and safety risks to others.<br>What action can be taken to avoid health and safety risks to other people and hardware. |

| **Upgrading hardware and software**<br>What is involved in upgrading hardware and software. | |
|---|---|
| Level 1 | Not applicable |
| Level 2 | What the benefits of upgrading may be.<br>What the drawbacks of not upgrading may be.<br>The need to check compatibility of software and hardware upgrades with other parts of a system. |
| Level 3 | The importance of keeping informed about the potential improvements that upgrades bring and the drawbacks that may be involved in not upgrading.<br>What information may be needed to take decisions about upgrades, such as about possible benefits, negative effects and returns on investment. |

## Skills and techniques

| **Managing files**<br>Managing files appropriately to maintain performance ('housekeeping'). | |
|---|---|
| Level 1 | Naming and organising files and folders so that it is easy to find documents needed.<br>Backing-up personal data to suitable storage media at appropriate intervals, such as to server or floppy disc.<br>Deleting unwanted personal files regularly to maintain performance. |
| Level 2 | Changing default settings for saving data. |
| Level 3 | Monitoring performance and taking any necessary action to keep performance effective. |

| **Cleaning**<br>Cleaning the external and internal parts of hardware. | |
|---|---|
| Level 1 | Selecting suitable cleaning methods and materials.<br>Cleaning hardware to make it work efficiently, such as keyboard, mouse roller ball or vents.<br>Cleaning hardware to keep them looking good. |
| Level 2 | As level 1 |
| Level 3 | As level 1 |

| **Avoiding health and safety risks**<br>Avoiding health and safety risks to self and others. | |
|---|---|
| Level 1 | Checking own working conditions.<br>Checking electrical connections.<br>Check arrangement of work-space. |
| Level 2 | Carrying out a risk assessment of own use of IT, including checking electrical loading of system. |
| Level 3 | Checking others health and safety. |

| **Maintaining**<br>Maintaining hardware and software. | |
|---|---|
| Level 1 | Replacing materials used in printers. |
| Level 2 | Carrying out routine maintenance to printers, following manufacturers' instructions for users.<br>Identifying any non-routine maintenance needed to hardware and carry it out, by following manufacturers' guidelines. |
| Level 3 | Using system maintenance tools to maintain system performance, such as de-fragmenting a hard disc.<br>Monitoring and changing basic input/output settings (BIOS), where necessary. |

| **Enhancing performance**<br>Enhancing the performance of hardware and software. | |
|---|---|
| Level 1 | Not applicable |
| Level 2 | Not applicable |
| Level 3 | Reviewing the features and settings of hardware, make changes where necessary to improve economy, efficiency and performance.<br>Uninstalling software.<br>Installing maintenance updates. |

# IT security for users

This is the ability to protect hardware, software and the data within an IT system against theft, malfunction and unauthorised access.

**A level 1 job role is likely to involve:**
- knowing about day-to-day security risks and the laws and guidelines that effect the use of IT; and
- using simple methods to protect software and personal data (eg risks from the wrong people getting access to it, from viruses or from hardware not working properly).

**In addition a level 2 job role is likely to involve:**
- knowing how to avoid common security risks and control access to software and data; and
- using a wider range of methods to protect software and data (eg from exchanging information by e-mail or when downloading software from the Internet).

**In addition a level 3 job role is likely to involve:**
- knowing how to monitor potential risks and take steps to protect own and others data and software (eg from unauthorised remote access, disasters or other unforeseen events.

| The competent person can: | This will involve applying knowledge and understanding of: | This will involve effective use of the following skills and techniques: |
|---|---|---|
| **Level 1**<br>Use simple methods to keep day-to-day security risks to a minimum. | • What day-to-day **security risks** there may be.<br>• The need to **control access** to hardware, software and data.<br>• What **laws and guidelines** there are about using IT. | • **Protecting** software and personal data. |
| **Level 2**<br>Select and use appropriate methods to keep common security risks to a minimum. | • What common **security risks** there may be.<br>• How to **control access**.<br>• What and how **laws and guidelines** affect the use of IT. | • **Protecting** software and data in different ways. |
| **Level 3**<br>Monitor potential risks and use appropriate methods to enhance the security of systems and other users. | • What potential **security risks** there may be.<br>• How to enhance methods to **control access**.<br>• How to communicate **laws and guidelines** about the use of IT. | • **Protecting** own and others use of software and different types of data. |

## Knowledge and understanding

| **Security risks**<br>Ways to keep security risks to a minimum. | |
|---|---|
| Level 1 | Risks to data from people, such as theft, viruses or unauthorised access.<br>Risks to data from the hardware or software not working properly, such as faults, errors or loss.<br>Risks of receiving and opening attachments from e-mails. |
| Level 2 | Risks of downloading software from the Internet. |
| Level 3 | Risks to computers and computer networks linked to the Internet.<br>Risks from disasters or other unforeseen events. |

| **Control access**<br>Why and how to control access to hardware, software and data. | |
|---|---|
| Level 1 | The importance of controlling access.<br>Ways to control access to common hardware. |
| Level 2 | Ways to control access to common storage media.<br>Ways to control other people from editing data.<br>Ways to control access to common software. |
| Level 3 | How to improve the protection of data.<br>Ways to provide different levels of access for different users.<br>How to improve protection from unauthorised remote access, such as using firewalls. |

| **Laws and guidelines**<br>What laws and guidelines affect people's use of IT. | |
|---|---|
| Level 1 | What laws and guidelines affect day-to-day use of IT, such as about data protection, equal opportunities, disability, health and safety, copyright and guidelines set by your employer or organisations. |
| Level 2 | What and how different IT activities are affected by laws and guidelines, such as storing names and address, downloading images from the Internet or sending inappropriate e-mails. |
| Level 3 | What other people need to know about the laws and guidelines that affect using IT.<br>How to communicate with people about the laws and guidelines. |

## Skills and techniques

| **Protecting**<br>Protecting hardware, software and data. | |
|---|---|
| Level 1 | Using a login identity (ID) and password to access computer systems.<br>Storing personal data and software safely.<br>Backing up data following recommended guidelines.<br>Using anti-virus software to protect applications. |
| Level 2 | Setting password levels on software and data.<br>Making backups of operating system data, where necessary.<br>Downloading software patches to fix any security flaws.<br>Taking appropriate action to keep risks to a minimum, when downloading software.<br>Taking action to avoid risks from receiving and opening attachments from e-mails. |
| Level 3 | Considering and evaluating levels of security risk for different users.<br>Using settings on the operating system to provide different levels of access for different users.<br>Improving the use of passwords and other methods of protecting data and software.<br>Using and maintaining contingency systems to keep the effects of security breaches to a minimum.<br>Making recovery plans to deal with the effects of disasters and other unforeseen events. |

# Internet and intranets

This is the ability to access, retrieve and verify information from the Internet, intranets and the world-wide web, using browser software.

**A level 1 job role is likely to involve:**

- knowing what connection methods can be used to access the Internet (eg by PC, modem, dial up connection and ISP or a mobile phone with wireless application protocol (WAP) or 3rd Generation (3G) technology) or an intranet server (eg via parallel, serial or USB connections);
- knowing about Internet security risks, laws and guidelines; and
- using basic browser facilities to search for, find and exchange useful information.

**In addition a level 2 job role is likely to involve:**

- knowing about the benefits and drawbacks of different connection methods;
- understanding how to avoid Internet security risks;
- using and customising more advanced browser facilities; and
- searching for, find and evaluating information.

**In addition a level 3 job role is likely to involve:**

- knowing how to help others understand laws and guidelines; and
- choosing suitable connection methods.

| The competent person can: | This will involve applying knowledge and understanding of: | This will involve effective use of the following skills and techniques: |
|---|---|---|
| **Level 1**<br>Use common connection methods to access, retrieve and exchange information from the Internet and the world-wide web or an intranet. | • What **connection methods** can be used to access the Internet and intranets.<br>• What the basic **browser facilities** are and how to use them.<br>• What **information and other opportunities** are available.<br>• What **Internet security risks** there may be.<br>• What **laws and guidelines** there are about using IT. | • **Searching** for information.<br>• **Finding and evaluating** information.<br>• **Exchanging information** in line with “netiquette rules”. |
| **Level 2**<br>Use computer and other hardware efficiently to access, retrieve and exchange relevant information of different types. | • The benefits and drawbacks of own **connection methods**.<br>• More advanced **browser facilities**.<br>• What **information and other opportunities** are available and ways to access them.<br>• Ways to avoid **Internet security risks**.<br>• How **laws and guidelines** affect the use of IT. | • **Searching** for relevant information efficiently.<br>• **Finding and evaluating** information using appropriate methods.<br>• **Exchanging information** by using appropriate methods.<br>• **Customising browser software.** |
| **Level 3**<br>Select and use appropriate connection methods efficiently and effectively to access, retrieve and exchange relevant information of many different types. | • The benefits and drawbacks of most **connection methods**.<br>• The full potential of **browser facilities**.<br>• What **information and other opportunities** are available and ways to access them.<br>• How to set up ways to avoid **Internet security risks**.<br>• How to communicate **laws and guidelines** about the use of IT. | • **Searching** for relevant information efficiently and effectively.<br>• **Finding and evaluating** information in terms of reliability and validity.<br>• **Exchanging information** of different types.<br>• Maintain performance by **customising browser software**.<br>• Choose suitable **connection methods**. |

## Knowledge and understanding

| **Connection methods**<br>Different types of connection, hardware and software needed for Internet and intranet access. | |
|---|---|
| Level 1 | How to connect to an intranet.<br>What different types of hardware, software and connections can be used to access the Internet. |
| Level 2 | What own connection will and will not do. |
| Level 3 | The benefits and limitations of different types of connection, hardware and software for Internet and intranet access.<br>What issues may affect some groups of users, such as people with disabilities or starting to learn how to access information.<br>Gather information about how the connection will be used.<br>Consider different connection methods, speeds and costs.<br>Choose and recommend a method that is fit for purpose. |

| **Browser facilities**<br>What facilities are available in browser software and how to make the most of them. | |
|---|---|
| Level 1 | How to reach useful information quickly.<br>How to send information from the browser to others via e-mail.<br>How to find the full web address for information.<br>How to download images and files.<br>How to complete on-line forms |
| Level 2 | What methods can be used to exchange files and how to use them, such as file transfer protocol (FTP) and hypertext transmission protocol (HTTP).<br>How to download software patches.<br>That browsers have different settings that can be changed.<br>That some browsers and servers will allow e-mail to be sent and received.<br>How and when to delete temporary files.<br>How changing settings effects performance, such as viewing, history and cookies. |
| Level 3 | How the performance of a browser can be maintained using settings.<br>How to help other users maintain the performance of their browser. |

| **Information and other opportunities**<br>What is available on Internet, intranets and the world-wide web. | |
|---|---|
| Level 1 | The different types of information, such as:<br>• factual information, creative work, opinions and information that is continually updated (or live) and interactive information;<br>• sources for finding information, such as guides and directories; and<br>• search engines to help find information. |
| Level 2 | What meta search engines are and how to use them.<br>Opportunities to post or publish material to websites<br>Opportunities to create websites. |
| Level 3 | As for level 2 |

| **Internet security risks**<br>What security risks there may be in using the Internet and how they can be avoided, such as from viruses or from unauthorised remote access (eg hackers). | |
|---|---|
| Level 1 | What risks there may be in downloading documents and software.<br>Risks in sharing information, such as personal details. |
| Level 2 | Legal, ethical and economic risks.<br>What ways there are of protecting against risks, such as browser security settings, firewalls and user access controls. |
| Level 3 | How to set up protection against risks.<br>How to limit the access that other users can have to the Internet. |

| **Laws and guidelines**<br>What laws and guidelines affect people's use of IT. | |
|---|---|
| Level 1 | What laws and guidelines affect day-to-day use of IT, such as about data protection, equal opportunities, disability, health and safety, copyright and guidelines set by your employer or organisations. |
| Level 2 | What and how different IT activities are affected by laws and guidelines, such as storing names and address, downloading images from the Internet or sending inappropriate e-mails. |
| Level 3 | What other people need to know about the laws and guidelines that affect using IT.<br>How to communicate with people about the laws and guidelines. |

## Skills and techniques

| **Searching**<br>Searching for information on the Internet or an intranet. | |
|---|---|
| Level 1 | Using a search engine to find and select appropriate information.<br>Using suitable techniques to make it easier to find useful information again (eg bookmarks or favourites) and to pass it on to others (eg sending web pages and web links via e-mail).<br>Keeping records of where useful information came from.<br>Saving the results of searches, so useful information can be found again. |
| Level 2 | Choosing a search engine that is appropriate for the information that is needed.<br>Carrying out searches efficiently, such as by using meta search engines, wild cards, AND or NOT (Boolean notation). |
| Level 3 | As level 2 |

| **Finding and evaluating**<br>Ways of finding and evaluating information. | |
|---|---|
| Level 1 | Choosing the source that is most likely to provide the information needed.<br>Locating information from various sources.<br>Choosing information that is appropriate for what is needed. |
| Level 2 | Choosing and use appropriate methods of searching for relevant information.<br>Reviewing sources and information to help choose what is most relevant, and to decide when enough has been found. |
| Level 3 | Verifying information, such as for relevance, bias, validity, reliability and sufficiency.<br>Helping others to find and evaluate information. |

| **Exchanging information**<br>Ways of exchanging information over the Internet or an intranet. | |
|---|---|
| Level 1 | Following the rules of "netiquette" when communicating with others. |
| Level 2 | Choosing and use appropriate methods of exchanging information, such as FTP or HTTP.<br>Using interactive sites. |
| Level 3 | Choosing and using an appropriate method for exchanging real time information, such as video and sound, virtual meeting software or live chat sessions.<br>Adjusting the format of information to make it easier to exchange. |

| **Customising browser software**<br>Customising browser software to make it easier to use. | |
|---|---|
| Level 1 | Not applicable |
| Level 2 | Customising browser settings to improve the performance of software. |
| Level 3 | Maintaining the performance of browser software by monitoring settings. |

# E-mail

This is the ability to send and receive messages. Whilst it is primarily associated with the Internet, it is not essential to involve Internet technology.

**A level 1 job role is likely to involve:**

- using basic e-mail software facilities (eg address books) to send e-mails to individuals, sending, receiving and opening attachments (eg digital pictures, word processing documents or spreadsheets).

**In addition a level 2 job role is likely to involve:**

- using more advanced e-mail facilities (eg for setting up groups of e-mail addresses, adding a signature, using rtf or html to alter the design and format of e-mails and compressing attachments).

**In addition a level 3 job role is likely to involve:**

- making the most of advanced e-mail facilities (eg for setting up automatic redirection or replies, using encryption and changing browser settings to deal with junk e-mail).

| The competent person can: | This will involve applying knowledge and understanding of: | This will involve effective use of the following skills and techniques: |
|---|---|---|
| **Level 1**<br>Use basic facilities of e-mail software to send and receive messages over the Internet or an intranet. | • What basic **e-mail facilities** are available and how to use them.<br>• What to do about simple **problems with e-mail.**<br>• What **laws and guidelines** there are about using IT. | • **Sending and receiving** e-mails using basic facilities.<br>• **Exchanging information** following 'netiquette' rules.<br>• **Formatting e-mails** – content.<br>• Using **address books.** |
| **Level 2**<br>Use more advanced facilities to send and receive messages. | • More advanced **e-mail facilities.**<br>• Common **problems with e-mail** and how to sort them out.<br>• What and how **laws and guidelines** affect the use of IT. | • **Sending and receiving** e-mails using more advanced facilities.<br>• **Exchanging information** by using appropriate methods.<br>• Using **address books and other facilities** available.<br>• **Formatting e-mails** in different modes. |
| **Level 3**<br>Use the full potential of e-mail software facilities for sending and receiving messages over. | • The full potential of **e-mail facilities.**<br>• Knowing when **problems with e-mail** are local.<br>• How to communicate **laws and guidelines** about the use of IT. | • **Sending and receiving** e-mails using and changing settings.<br>• **Exchanging information** of different types.<br>• Using **address books and other facilities** available.<br>• **Formatting e-mails** to improve readability |

## Knowledge and understanding

| **E-mail facilities**<br>Different facilities that are provided by e-mail software, such as tools, archive folders, address books and settings. | |
|---|---|
| Level 1 | E-mail messages.<br>Basic options for sending and replying.<br>How to send and receive attachments.<br>How to use an address book. |
| Level 2 | How to send e-mails to groups using a group list within an address book.<br>How to archive and compress e-mails.<br>What other resources may be provided by e-mail software and how to use them. |
| Level 3 | Options for redirecting e-mails.<br>What and how settings can be changed to effect what the e-mail software does and when.<br>When and how to use encryption software.<br>The benefits and limitations of different access methods. |

| **Problems with e-mail**<br>What problems can happen and how to keep risks to a minimum. | |
|---|---|
| Level 1 | Why some computer users may have difficulty in sending and receiving e-mails with attachments.<br>What to do about e-mails from unknown users.<br>What viruses are and the problems they can cause.<br>How using anti-virus software can help to keep risks to a minimum.<br>Where and when to seek advice. |
| Level 2 | What to do about e-mails intended to cause problems, such as SPAM or chain-mails.<br>How to keep the difficulties of sending and receiving large e-mails to a minimum.<br>What limits there may be to the number or size of e-mails that can be received and stored.<br>How to avoid viruses. |
| Level 3 | How to identify whether problems are local (eg software or network errors) or linked to the service provided by the ISP. |

| **Laws and guidelines**<br>What laws and guidelines affect people's use of IT. | |
|---|---|
| Level 1 | What laws and guidelines affect day-to-day use of IT, such as about data protection, equal opportunities, disability, health and safety, copyright and guidelines set by your employer or organisations. |
| Level 2 | What and how different IT activities are affected by laws and guidelines, such as storing names and address, downloading images from the Internet or sending inappropriate e-mails. |
| Level 3 | What other people need to know about the laws and guidelines that affect using IT.<br>How to communicate with people about the laws and guidelines. |

## Skills and techniques

| **Sending and receiving**<br>Sending and receiving e-mails using the facilities provided by software. | |
|---|---|
| Level 1 | Using basic send commands, such as send to individuals, send carbon copies.<br>Using basic reply commands, such as receive, forward, reply to individuals, reply to all and reply with history.<br>Deleting e-mail.<br>Sending and opening e-mails with attachments.<br>Saving attachments to appropriate places.<br>Finding e-mails.<br>Following any rules and guidelines for sending and replying to emails. |
| Level 2 | Using more advanced facilities, such as add a signature or set the priority of messages.<br>Sending messages to groups of people using groups set up in an address book.<br>Sending and receiving instant messages with and without attachments.<br>Compressing messages on sending and un-compress messages that have been received.<br>Archiving e-mails where necessary, such as by using folders and subfolders. |
| Level 3 | Choosing and use the most appropriate method of accessing e-mail.<br>Arranging for received e-mails to be re-directed to specific e-mail boxes.<br>Using advanced settings within e-mail software, such as to manage junk e-mail or SPAM. |

| **Using address books and other facilities**<br>Using address books and other facilities provided by e-mail software, such as out of office replies and encryption. | |
|---|---|
| Level 1 | Maintaining an e-mail address book. |
| Level 2 | Setting up groups for sending e-mails to.<br>Compressing and de-compress e-mail attachments. |
| Level 3 | Using advanced facilities and settings to improve the performance of e-mail, such as encryption software to protect e-mail from being read by external users. |

| **Formatting e-mails**<br>Formatting e-mails to make them communicate for effectively. | |
|---|---|
| Level 1 | Formatting character, such as by changing font (typeface), type size and colour.<br>Formatting paragraphs using alignment, bullets, numbering and indents. |
| Level 2 | Changing design and format of e-mails, such as by using RTF, HTML and plain text. |
| Level 3 | Changing file formats and encoding techniques to improve the readability of e-mail messages and attachments. |

| **Exchanging information**<br>Ways of exchanging information over the Internet or an intranet. | |
|---|---|
| Level 1 | Following the rules of “netiquette” when communicating with others. |
| Level 2 | Choosing and using appropriate methods of exchanging information, such as FTP or HTTP.<br>Using interactive sites. |
| Level 3 | Choosing and using an appropriate method for exchanging real time information, such as video and sound, virtual meeting software or live chat sessions.<br>Adjusting the format of information to make it easier to exchange. |

# Word processing software

This is the ability to use a software application designed for the creation, edit and production of documents and text (e.g. writing a letter, memo or CV).

**A level 1 job role is likely to involve:**
- producing simple documents (eg producing letters, envelopes, memos, simple reports, faxes, CVs, agendas, posters, travel directions and simple web pages).

**In addition a level 2 job role is likely to involve:**
- using a wide range of tools and techniques to produce professional looking documents (eg producing mail merged business letters and invoices, more complex reports and content for web pages).

**In addition a level 3 job role is likely to involve:**
- customising and automating tools and techniques to produce complex documents (eg producing newsletters, journals, complex reports, form letters, form envelopes and form address labels).

| The competent person can: | This will involve applying knowledge and understanding of: | This will involve effective use of the following skills and techniques: |
|---|---|---|
| **Level 1**<br>Use word processing software to produce appropriate simple documents. | • How to **produce information** that is suitable.<br>• Simple **word processing documents.** | • **Handling files**.<br>• **Combining information.**<br>• **Editing text**;<br>**Formatting text**;<br>**Laying out;** and<br>**Checking text** in simple documents. |
| **Level 2**<br>Use word processing software effectively to produce professional looking documents that communicate clearly and accurately. | • How to **produce information** that is clear and appropriate.<br>• Professional looking **word processing documents.** | • **Handling files** appropriately.<br>• **Combining information** of different types**.**<br>• **Editing text**;<br>**Formatting text**;<br>**Laying out;** and<br>**Checking text** to make documents look professional.<br>• **Improving efficiency** – short cuts. |
| **Level 3**<br>Use word processing software efficiently to produce complex documents that communicate effectively. | • How to **produce information** that is well structured and fit for purpose.<br>• Complex **word processing documents.** | • **Handling files** and converting them.<br>• **Combining information** to create complex documents.<br>• **Editing text**;<br>**Formatting text**;<br>**Laying out;** and<br>**Checking text** in complex documents.<br>• **Improving efficiency**– customising and automating |

## Knowledge and understanding

| **Produce information**<br>How to produce information that communicates effectively and accurately, taking into account time, content, meaning and organisation of the information and the needs of the audience. | |
|---|---|
| Level 1 | Know who and what the information is for, where it will be used (eg on screen or hard copy) and when it is needed. |
| Level 2 | How to produce information that communicates clearly and accurately with the audience, where and when it is needed. |
| Level 3 | How to produce information that communicates effectively, by structuring the content to take account of different contexts and audience needs. |

| **Word processing documents**<br>How to produce simple, professional looking and complex word processing documents. | |
|---|---|
| Level 1 | How to produce simple word processing documents that are accurate and well laid out. Simple documents will have structure and style that is often used. Producing them may involve using a template or working from an existing example. |
| Level 2 | How to produce professional looking word processing documents for a wide variety of uses. Professional looking documents are well structured and appropriately styled so that they communicate effectively. |
| Level 3 | How to produce word processing documents that are complex in terms of content and meaning as well as the understanding, skills and techniques needed to produce them. |

## Skills and techniques

| **Handling files**<br>File handling techniques appropriate for the software in use. | |
|---|---|
| Level 1 | Using basic file handling techniques for the software, such as create, open, save (as) and print. |
| Level 2 | Using appropriate techniques to handle, organise and save files. |
| Level 3 | Converting files to another suitable format, where necessary. |

| **Combining information**<br>Ways of combining information of various types. | |
|---|---|
| Level 1 | Using basic techniques to combine information, such as insert, size and position. |
| Level 2 | Linking information within the same type of software.<br>Adding information from one type of software to information produced using different software, such as a spreadsheet graph to a word processing document; text to an image file; picture to a presentation slide; or simple information from a database onto a website. |
| Level 3 | Exporting and importing, link objects between different software.<br>Making references to external data, such as hyperlinks, object linking and embedding.<br>Using advanced techniques for combining or merging versions of information from different users. |

| **Editing text**<br>Editing for text in simple, professional looking and complex documents. | |
|---|---|
| Level 1 | Using basic editing techniques appropriately, such as insert, delete, cut, copy, paste, drag and drop, find and replace. |
| Level 2 | Using a wide range of editing techniques appropriately, such as:<br>• size and sort,<br>• inserting special characters and symbols, and<br>• mail merge. |
| Level 3 | Using advanced editing techniques appropriately, such as:<br>• sorting and merging a data source with main document,<br>• changing security,<br>• authoring tools,<br>• creating, modifying and merging different versions, and<br>• improving efficiency for users (eg hyperlinks). |

| **Formatting text**<br>Formatting text using appropriate techniques for characters, lines, paragraphs, pages, sections, columns and styles. | |
|---|---|
| Level 1 | Formatting simple word processing documents using appropriate tools and techniques, for:<br>• characters – such as: size, font (typeface), colour, bold, underline and italic;<br>• paragraphs – such as: alignment, bullets, numbering, line spacing, borders, shading, tabs and indents;<br>• lines – such as: spacing, alignment and breaks; and<br>• pages – such as: size, orientation, margins, page numbers, date and time. |
| Level 2 | Formatting information in line with an organisational house style.<br>Formatting word processing documents to make them look professional, using a wide range of tools and techniques, for:<br>• tabs;<br>• columns – such as: adding columns to whole document and part of a page;<br>• styles – such as: apply an existing style to a word, line or paragraph;<br>• pages – such as: headers and footers, inserting page breaks; and<br>• files – such as: change format of word processing documents to RTF or HTML. |
| Level 3 | Formatting complex word processing documents effectively using appropriate tools and techniques, for:<br>• sections – formatting text differently in each section;<br>• styles – such as: create, rename and modify styles (eg characters, tabs and paragraphs). |

| **Laying out**<br>Laying out documents to communicate effectively, such as using tables, templates and structure. | |
|---|---|
| Level 1 | Creating simple tables and add data to them.<br>Entering text into existing templates, such as for letters, faxes and web pages. |
| Level 2 | Using appropriate tools and techniques for creating, editing and formatting professional looking tables, such as insert tables, create, add and delete columns, modify column width and row height, add borders and shading.<br>Selecting, changing and using appropriate templates. |
| Level 3 | Using appropriate tools and techniques for creating, editing and formatting complex tables, such as convert text to tables and tables to text.<br>Creating suitable templates.<br>Changing document structure, such as headings, footnotes, bookmarks, watermarks, captions and numbered paragraphs; and also cross-references to these, such as indexes and table of content. |

| **Checking text**<br>Checking text to make sure that it is accurate, consistent and well laid out. | |
|---|---|
| Level 1 | Using spell check, grammar check and word count to check the accuracy of simple text. |
| Level 2 | Using proof reading techniques to check that text looks professional.<br>Checking line, paragraph and page breaks fall in appropriate places, and check that headings, subheadings and other formatting techniques are used appropriately. |
| Level 3 | Checking that structure, style and formatting are used to aid meaning in complex text. |

| **Improving efficiency**<br>Ways of improving efficiency. | |
|---|---|
| Level 1 | Not applicable |
| Level 2 | Setting up short cuts. |
| Level 3 | Customising menus and toolbars.<br>Automating common tasks, such as by using macros. |

# Spreadsheet software

This is the ability to use a software application designed to record data in rows and columns, and perform calculations with numerical data (eg Microsoft Excel, Sun Office Star, Lotus 1-2-3, Apple Works or similar packages). A spreadsheet can be used for different tasks, such as budgeting, producing tables, calculating house-hold bills or producing graphs.

**A level 1 job role is likely to involve:**
- entering data into cells;
- using simple formulae and functions (eg sum, divide, multiply, take away and fractions); and
- simple tools to edit, sort, present and check spreadsheets (eg a duty rota for staff or a work sheet for keeping track of expenses).

**In addition a level 2 job role is likely to involve:**
- using more complex formulae and functions (eg mathematical, statistical and financial) and tools (eg monthly expenditure and sales figures, cash flow forecasts and graphs of results).

**In addition a level 3 job role is likely to involve:**
- producing spreadsheets for analysing and interpreting complex data (eg a cost benefit analysis, budgets and annual accounts).

| The competent person can: | This will involve applying knowledge and understanding of: | This will involve effective use of the following skills and techniques: |
|---|---|---|
| **Level 1**<br>Enter data into cells and use spreadsheet software to produce appropriate simple spreadsheet documents. | • How to **produce information** that is suitable.<br>• Simple **spreadsheets**.<br>• How to **analyse and interpret** simple data. | • **Handling files**.<br>• **Combining information.**<br>• **Entering and editing spreadsheet data**; **Formatting spreadsheets;** and **Checking spreadsheets** using basic tools.<br>• Using simple **functions and formulas.**<br>• **Analysing and interpreting;** and **Presenting** simple data. |
| **Level 2**<br>Use spreadsheet software effectively to produce more complex spreadsheets. | • How to **produce information** that is clear and appropriate.<br>• More complex **spreadsheets.**<br>• How to **analyse and interpret** more complex data. | • **Handling files** appropriately.<br>• **Combining information** of different types**.**<br>• **Entering and editing spreadsheet data**; **Formatting spreadsheets;** and **Checking spreadsheets** using a range of tools.<br>• Using **functions and formulas** in more complex types of spreadsheet.<br>• **Analysing and interpreting;** and **Presenting** more complex data.<br>• **Improving efficiency** – short cuts. |
| **Level 3**<br>Use spreadsheet software to produce spreadsheets that enable complex data to be analysed, interpreted and communicated effectively. | • How to **produce information** that is well structured and fit for purpose.<br>• Technically complex **spreadsheets.**<br>• How to **analyse and interpret** complex data. | • **Handling files** and converting them.<br>• **Combining information** that is complex.<br>• **Entering and editing spreadsheet data**; **Formatting spreadsheets;** and **Checking spreadsheets** involving complex data.<br>• Using **functions and formulas** to solve complex problems.<br>• **Analysing and interpreting;** and **Presenting** complex data.<br>• **Improving efficiency** – customising and automating. |

## Knowledge and understanding

| **Produce information**<br>How to produce information that communicates effectively and accurately, taking into account time, content, meaning and organisation of the information and the needs of the audience. | |
|---|---|
| Level 1 | Know who and what the information is for, where it will be used (eg on screen or hard copy) and when it is needed. |
| Level 2 | How to produce information that communicates clearly and accurately with the audience, where and when it is needed. |
| Level 3 | How to produce information that communicates effectively, by structuring the content to take account of different contexts and audience needs. |

| **Spreadsheets**<br>How to produce simple, more complex and technically complex spreadsheets. | |
|---|---|
| Level 1 | How to produce simple spreadsheet that are accurate and well laid out. Simple documents will have structure that is simple. Producing them may involve entering data into an existing spreadsheet or working from an existing example. |
| Level 2 | How to produce more complex spreadsheets for a wide variety of uses. More complex spreadsheet documents will have structure that is familiar or often used. |
| Level 3 | How to produce spreadsheets that are technically complex in terms of content and analysis, as well as the understanding, skills and techniques needed to produce them. |

| **Analyse and interpret**<br>How to analyse and interpret simple, and complex data | |
|---|---|
| Level 1 | What methods can be used for simple data. |
| Level 2 | What methods are suitable for more complex data. |
| Level 3 | What methods can be used for complex data, such as to compare related totals or predict trends. |

## Skills and techniques

| **Handling files**<br>File handling techniques appropriate for the software in use. | |
|---|---|
| Level 1 | Using basic file handling techniques for the software, such as create, open, save (as) and print. |
| Level 2 | Using appropriate techniques to handle, organise and save files. |
| Level 3 | Converting files to another suitable format, where necessary. |

| **Combining information**<br>Ways of combining information of various types. | |
|---|---|
| Level 1 | Using basic techniques to combine information, such as insert, size and position. |
| Level 2 | Linking information within the same type of software.<br>Adding information from one type of software to information produced using different software, such as a spreadsheet graph to a word processing document; text to an image file; picture to a presentation slide; or simple information from a database onto a website. |
| Level 3 | Exporting and importing, link objects between different software.<br>Making references to external data, such as hyperlinks, object linking and embedding.<br>Using advanced techniques for combining or merging versions of information from different users. |

| **Entering and editing spreadsheet data**<br>Techniques for entering data and editing spreadsheets. | |
|---|---|
| Level 1 | Inserting data into single cells.<br>Using basic editing techniques appropriately in simple spreadsheets, such as:<br>• add and delete rows and columns and clear cells, and<br>• cut, copy, paste, drag and drop, find and replace. |
| Level 2 | Inserting data into multiple cells at once.<br>Using a wide range of editing techniques appropriately in more complex spreadsheets, such as:<br>• use absolute and relative cell references, and<br>• add data and text to a chart, change the type of chart. |
| Level 3 | Using advanced editing techniques appropriately in technically complex spreadsheets, such as:<br>• hide and protect cells,<br>• create a wide range of types of chart, and<br>• create, modify and merge multiple copies of a shared workbook. |

| **Formatting spreadsheets**<br>Formatting spreadsheets using appropriate techniques for cells, rows, columns, pages and charts. | |
|---|---|
| Level 1 | Formatting simple spreadsheets using appropriate tools and techniques for:<br>• cells – such as: numbers, decimal place, font and alignment;<br>• rows and columns – such as: height, width, borders and shading;<br>• charts – such as: titles and labels; and<br>• pages – such as: size, orientation, margins, page numbers, date and time. |
| Level 2 | Formatting more complex spreadsheets using a range of appropriate tools and techniques, for:<br>• cells – such as: colour, shading and borders;<br>• charts – such as: change chart type, move and resize chart; and<br>• pages – such as: headers and footers, adjust page set up for printing. |
| Level 3 | Formatting complex spreadsheets for using appropriate tools and techniques, for:<br>• cells – data type;<br>• conditional formatting;<br>• charts – such as: font, number format, axis scale, colour, annotation and layout; and<br>• pivot table reports. |

| **Checking spreadsheets**<br>Checking information in spreadsheet documents. | |
|---|---|
| Level 1 | Checking if figures entered in a simple spreadsheet are correct. |
| Level 2 | Checking that page breaks fall in appropriate places and that the formatting is appropriate.<br>Checking the accuracy of results and sort out errors in formulas. |
| Level 3 | Checking the validity, relevance and accuracy of analysis and the interpretation of calculations and results. |

| **Functions and formulas**<br>Selecting and using appropriate functions and formulas in spreadsheets. | |
|---|---|
| Level 1 | Using appropriate functions and formulas in simple spreadsheets, such as sum, operators and fractions. |
| Level 2 | Using appropriate functions and formulas in more complex spreadsheets, such as mathematical, statistical, financial and relational. |
| Level 3 | Using appropriate functions and formulas in technically complex spreadsheets, such as look-up, arguments, arrays and formulas for validating data. |

| **Analysing and interpreting (spreadsheets)**<br>Analysing and interpreting simple, more complex and complex data. | |
|---|---|
| Level 1 | Using appropriate tools and techniques for analysing simple data, such as automatic sub-totals and sorting a cell range. |
| Level 2 | Using appropriate tools and techniques for analysing more complex data, such as filter. |
| Level 3 | Using appropriate tools and techniques for analysing complex data, such as:<br>• retrieving text and data from a table or preformatted area on a web page,<br>• adding data restrictions,<br>• adding messages to data,<br>• data validation,<br>• using formula to determine valid entries for cells,<br>• displaying data according to interest,<br>• using pivot tables to create, rotate rows and columns and filter data by displaying different pages, and<br>• creating data maps with titles, text and pin maps. |

| **Presenting (spreadsheets)**<br>Presenting simple, more complex and complex data in spreadsheets. | |
|---|---|
| Level 1 | Using appropriate methods to present simple data, such as tables, bar graphs, pie charts and lists. |
| Level 2 | Using appropriate methods to present more complex data, such as the range of graphs and charts provided by the software. |
| Level 3 | Using appropriate methods to present complex data, such as views, pivot tables and pivot table reports. |

| **Improving efficiency**<br>Ways of improving efficiency. | |
|---|---|
| Level 1 | Not applicable |
| Level 2 | Setting up short cuts. |
| Level 3 | Customising menus and toolbars.<br>Automating common tasks, such as by using macros. |

# Database software

This is the ability to use a software application (eg Microsoft Access, Sun Star Office, Apple Works, Filemaker Pro, similar packages or one built for an organisation) designed to organise and collate related information (eg storing addresses and phone numbers).

**A level 1 job role is likely to involve:**
- entering and retrieving information from databases (eg for names and addresses, stock control, time-management or event-management) by running simple queries; and
- producing reports (eg using menus or short cuts).

**In addition a level 2 job role is likely to involve:**
- modifying simple (eg single table, non-relational) databases, creating queries using multiple selection criteria and reports (eg about sales activities, order details or project management).

**In addition a level 3 job role is likely to involve:**
- modifying relational databases (eg about customers' buying methods, order frequency and payment patterns).

| The competent person can: | This will involve applying knowledge and understanding of: | This will involve effective use of the following skills and techniques: |
|---|---|---|
| **Level 1**<br>Enter and retrieve specified information using database software. | • How to use an existing **database design** | • **Entering data** into an existing database.<br>• Running simple database queries.<br>• Producing **database reports** that are pre-defined.<br>• **Checking data** has been entered appropriately. |
| **Level 2**<br>Enter and retrieve a range of information; and create and modify database fields. | • What the basic principles of **database design** are.<br>• What **field characteristics** there may be in a simple database.<br>• How to maintain **data integrity** and why it is important. | • **Entering data** into an existing database.<br>• creating fields in a simple database.<br>• **Modifying databases** by changing field characteristics.<br>• **Formatting** – data and reports.<br>• Planning and producing **database reports** – based on multiple criteria **database queries.**<br>• **Checking data** in databases.<br>• **Improving efficiency** – short cuts. |
| **Level 3**<br>Enter information from a range of sources; retrieve and format information; and modify database structures. | • How to modify the **database design** when working with related tables.<br>• How **field characteristics** enable data to be queried and reported.<br>• What **data integrity** and other issues there may be and how to balance them. | • Producing forms for **entering data.**<br>• **Modifying databases** by changing data file relationships.<br>• **Formatting data** – styles for fields, tables, records and reports.<br>• Creating **database reports** based on complex **database queries** on multiple-table databases.<br>• **Checking data** in multiple-table databases.<br>• **Improving efficiency** – customising and automating. |

## Knowledge and understanding

| **Database design**<br>The principles of database design, including purpose, use and structure. | |
|---|---|
| Level 1 | What types of information the database has been designed for, such as names, addresses, phone numbers and dates.<br>How to use a form designed for entering data into a database.<br>How to find and retrieve information from a database. |
| Level 2 | What types of design content are stored within the database, such as field types, field names and table names.<br>How data is structured in a simple (eg single-table, non-relational) database. |
| Level 3 | The purpose of relationships in multiple-table databases.<br>How relationships are established in multiple-table databases.<br>How data is structured in a multiple-table database.<br>What logical operators are and how to use them. |

| **Field characteristics**<br>The characteristics fields may have and how they enable data to be queried and reported. | |
|---|---|
| Level 1 | Not applicable |
| Level 2 | What characteristics in a database fields may have, such as data type, field name, field size and field format.<br>How field characteristics can contribute to data validation |
| Level 3 | What characteristics fields may have in a multiple-table database, such as primary key and relationships with other fields.<br>How field characteristics can facilitate queries and reports and can be used to validate data. |

| **Data integrity**<br>The issues in relation to handling data in a database. | |
|---|---|
| Level 1 | Not Applicable. |
| Level 2 | Why it is important to maintain data integrity.<br>What methods should be used to maintain data integrity in a simple (eg single-table, non-relational) database. |
| Level 3 | What issues there are about handling data, such as completeness of data, data consistency and data redundancy.<br>Ways to balance different issues in handling data.<br>How to maintain data integrity in a multiple-table database. |

## Skills and techniques

| **Entering data**<br>Techniques for entering data into databases. | |
|---|---|
| Level 1 | Accessing database files.<br>Inputting data appropriately, such as to update fields or create new records.<br>Dealing appropriately with data that does not fit within pre-set parameters, such as the set number of lines, additional personal details or details of service required.<br>Saving database files. |
| Level 2 | Creating fields for entering data with the required field characteristics, such as name, type, size and format. |
| Level 3 | Creating forms for data entry.<br>Importing data from external sources such as other databases or spreadsheets. |

| **Modifying databases**<br>Modifying databases to meet user requirements. | |
|---|---|
| Level 1 | Not applicable |
| Level 2 | Modifying field characteristics within a simple (e.g. single-table, non-relational) database while maintaining the integrity of existing data, such as name, type and size. |
| Level 3 | Modifying field characteristics within a multiple-table database.<br>Establishing data file relationships that enable appropriate information to be retrieved while maintaining the integrity of the data, such as primary key and file relationships.<br>Linking data with other software applications, such as spreadsheets or word processing. |

| **Formatting data**<br>Techniques for formatting fields and database structures. | |
|---|---|
| Level 1 | Not applicable |
| Level 2 | Using appropriate tools and techniques to format data that is text and numbers.<br>Formatting reports from simple (eg single-table, non-relational) databases using appropriate tools and techniques for page layout, such as page size, page orientation, page numbering, headers and footers and margins. |
| Level 3 | Using appropriate tools and techniques to format and layout database fields, tables, forms, records and reports from multiple-table databases, such as, font, colour, column and row.<br>Creating styles for fields, tables, forms, records and reports within multiple-table databases. |

| **Checking data**<br>Checking data in databases. | |
|---|---|
| Level 1 | Checking data for completeness, accuracy and security using automated facilities and on-line help. |
| Level 2 | Using automated facilities for checking data and reports, such as spell checking and sorting data.<br>Checking reports are formatted and laid out appropriately. |
| Level 3 | Checking data integrity, formatting and any links with other applications. |

| **Database queries**<br>Types of queries and ways to carry them out. | |
|---|---|
| Level 1 | Using simple queries to query data, such as single criteria and 'sort'.<br>Saving data retrieved from the database appropriately. |
| Level 2 | Creating and using multiple criteria queries to extract data. |
| Level 3 | Modifying the method used to query data to meet different requirements, such as database file relationships and multiple queries. |

| **Database reports**<br>Ways to produce reports from databases. | |
|---|---|
| Level 1 | Producing appropriate pre-defined reports from existing databases to meet user requirements, such as by using menus or short cuts. |
| Level 2 | Planning and producing reports from single (eg single-table, non-relational) databases. |
| Level 3 | Planning and producing reports from multiple-table databases.<br>Producing reports for use by external applications such as word processing. |

| **Improving efficiency**<br>Ways of improving efficiency. | |
|---|---|
| Level 1 | Not applicable |
| Level 2 | Setting up short cuts. |
| Level 3 | Customising menus and toolbars.<br>Automating common tasks, such as by using macros. |

# Website software

This is the ability to use an application designed for planning, building and maintaining simple websites.

**A level 1 job role is likely to involve:**
- using software to plan and produce a simple web page (eg displaying a photo and short description about a person, product or a small business).

**In addition a level 2 job role is likely to involve:**
- producing multiple-page websites (eg more detailed information about an organisation and what they do or the products or services offered by a company).

**In addition a level 3 job role is likely to involve:**
- producing interactive websites (eg a website that allows the user to use a guest book or message board, fill in feedback forms or send a message).

| The competent person can: | This will involve applying knowledge and understanding of: | This will involve effective use of the following skills and techniques: |
|---|---|---|
| **Level 1**<br>Use software to produce appropriate simple web pages. | • How to **produce information** that is suitable.<br>• Simple **websites.**<br>• What **website features** are used.<br>• What **laws and guidelines** there are abut using IT. | • **Handling files**.<br>• **Combining information.**<br>• **Planning and producing** simple websites.<br>• **Editing, formatting and laying out content** for simple websites.<br>• **Checking text;** and **Checking images** for simple web sites.<br>• **Uploading** content. |
| **Level 2**<br>Use software effectively to produce multiple-page web sites that communicate clearly and accurately. | • How to **produce information** that is clear and appropriate.<br>• Multiple-page **websites.**<br>• Review **website features** for the user.<br>• What and how **laws and guidelines** affect the use of IT.<br>• **User issues** for websites. | • **Handling files** appropriately.<br>• **Combining information** of different types.<br>• **Planning and producing** multiple-page web sites.<br>• **Editing, formatting and laying out content** for multiple-page web sites.<br>• **Checking text;** and **Checking images** for multiple-page websites.<br>• **Uploading** and maintaining content. |
| **Level 3**<br>Use software efficiently to produce interactive web pages that communicate effectively. | • How to **produce information** that is well structured and fit for purpose.<br>• Interactive **websites.**<br>• Review **website features** that are interactive and commercial for the owner.<br>• How to communicate **laws and guidelines** about the use of IT.<br>• How to keep **user issues** to a minimum. | • **Handling files** and converting them.<br>• **Combining information** that is complex.<br>• **Planning and producing** interactive web pages.<br>• **Editing, formatting and laying out content** for interactive web pages.<br>• **Checking text;** and **Checking images** for interactive websites.<br>• **Uploading** content to make loading faster. |

## Knowledge and understanding

| **Produce information**<br>How to produce information that communicates effectively and accurately, taking into account time, content, meaning and organisation of the information and the needs of the audience. | |
|---|---|
| Level 1 | Know who and what the information is for, where it will be used (eg on screen or hard copy) and when it is needed. |
| Level 2 | How to produce information that communicates clearly and accurately with the audience, where and when it is needed. |
| Level 3 | How to produce information that communicates effectively, by structuring the content to take account of different contexts and audience needs. |

| **Websites**<br>Different types of websites. | |
|---|---|
| Level 1 | Single page websites, such as those with text, a photo and a background. |
| Level 2 | Multiple-page web sites that set out information on different pages, such as about contact details, employees, interests, services or products. |
| Level 3 | Interactive web pages that allow the user to do things, such as leave messages, chat or fill in forms. |

| **Website features**<br>What website features there are and the benefits and drawbacks for the user and website owner. | |
|---|---|
| Level 1 | What different features are used on websites, such as backgrounds, content, sound, frames, action buttons, links and hotspots.<br>What features are used to help the user navigate round a website.<br>What you like and don't like about single page websites. |
| Level 2 | How web pages and multiple-page websites are structured, such as using frames, hyperlinks and pop-ups.<br>What different design elements are used, such as using colour for the page background, the text, hyperlinks and visited hyperlinks.<br>What multimedia features are used, such as sound, animation or live video.<br>What interactive features are used, such as message boards, forms, e-mail links and registration log-ins.<br>The benefits and drawbacks of different features for the user. |
| Level 3 | What security features are used for e-commerce websites.<br>What features and strategies are used to increase the chance of people visiting websites, such as meta tags and marketing.<br>The difference between interactive web pages and e-commerce websites.<br>The benefits and drawbacks of different features for the owner. |

| **Laws and guidelines**<br>What laws and guidelines affect people's use of IT. | |
|---|---|
| Level 1 | What laws and guidelines affect day-to-day use of IT, such as about data protection, equal opportunities, disability, health and safety, copyright and guidelines set by your employer or organisations. |
| Level 2 | What and how different IT activities are affected by laws and guidelines, such as storing names and address, downloading images from the Internet or sending inappropriate e-mails. |
| Level 3 | What other people need to know about the laws and guidelines that affect using IT.<br>How to communicate with people about the laws and guidelines. |

| **User issues**<br>What issues affect people using websites. | |
|---|---|
| Level 1 | Not applicable |
| Level 2 | What difficulties users with different needs may have in accessing websites.<br>Why download speed varies, such as by the type of browser and connection and by the memory size of the contents of the web page. |
| Level 3 | How to increase accessibility for different users.<br>How to improve down load speed for users. |

## Skills and techniques

| **Handling files**<br>File handling techniques appropriate for the software in use. | |
|---|---|
| Level 1 | Using basic file handling techniques for the software, such as create, open, save (as) and print. |
| Level 2 | Using appropriate techniques to handle, organise and save files. |
| Level 3 | Converting files to another suitable format, where necessary. |

| **Combining information**<br>Ways of combining information of various types. | |
|---|---|
| Level 1 | Using basic techniques to combine information, such as insert, size and position. |
| Level 2 | Linking information within the same type of software.<br>Adding information from one type of software to information produced using different software, such as a spreadsheet graph to a word processing document; text to an image file; picture to a presentation slide; or simple information from a database onto a website. |
| Level 3 | Exporting and importing, link objects between different software.<br>Making references to external data, such as hyperlinks, object linking and embedding.<br>Using advanced techniques for combining or merging versions of information from different users. |

| **Planning and producing (websites)**<br>Planning and producing simple, multiple-page websites and interactive websites. | |
|---|---|
| Level 1 | Using a web design template to:<br>• plan layout and format, and<br>• create a simple web site. |
| Level 2 | Choosing what content and features will be included.<br>Planning the lay out of the content and how any features will be used.<br>Using appropriate web tools and techniques to create a multiple-page website, such as:<br>• creating links to bookmark text within a page,<br>• linking web pages together within a web site and adding a hyperlink to someone else's web site, and<br>• altering simple code using programming language. |
| Level 3 | Using appropriate web tools and techniques to create appropriate multiple-page websites with interactive features, such as:<br>• using appropriate programming language to create code,<br>• adding multi-media content to web pages,<br>• setting up a secure area, a message board or e-mail link,<br>• testing a website on a range of hardware and software specifications, and<br>• increasing the chance of people visiting the website. |

| **Editing, formatting and laying out content**<br>Techniques will vary according to the software being used. | |
|---|---|
| Level 1 | Using basic editing and formatting techniques appropriately, such as:<br>• insert and delete,<br>• cut, copy and paste,<br>• drag and drop, and<br>• find and replace.<br>Formatting content using appropriate tools and techniques, such as:<br>• fonts (typeface) and type style (eg bold or italic),<br>• image, chart and diagram size and orientation. |
| Level 2 | Using a wide range of editing and formatting tools and techniques to produce content for multiple-page websites, such as:<br>• for characters, lines, paragraphs and pages,<br>• insert and change text,<br>• resize, align, rotate, flip and arrange images, and<br>• using tables and frames to lay out a web page.<br>Formatting more complex content using a wide range of appropriate tools and techniques, such as:<br>• character, line spacing, paragraphs and pages, and<br>• colour, fonts, size, background and pictures. |
| Level 3 | Using a wide range of tools and techniques to produce more complex content for interactive websites using, such as:<br>• creating tables and templates,<br>• using cascading style sheets,<br>• frames, templates and colour schemes, and<br>• files to make them easier to download. |

| **Checking text**<br>Checking text to make sure that it is accurate, consistent and well laid out. | |
|---|---|
| Level 1 | Using spell check, grammar check and word count to check the accuracy of simple text. |
| Level 2 | Using proof reading techniques to check that text looks professional.<br>Checking line, paragraph and page breaks fall in appropriate places, and check that headings, subheadings and other formatting techniques are used appropriately. |
| Level 3 | Checking that structure, style and formatting are used to aid meaning in complex text. |

| **Checking images**<br>Checking images to make sure that they are effective and fit for purpose. | |
|---|---|
| Level 1 | Checking size, alignment and orientation of images.<br>Checking file format is suitable. |
| Level 2 | Checking colour mode and filters are used appropriately.<br>Checking image resolution is suitable for where and how it will be used. |
| Level 3 | Checking that the colour depth and file format are suitable.<br>Checking speed of loading images on a web browser, where appropriate.<br>Checking compatibility of images with different software and operating systems, where appropriate. |

| **Uploading**<br>Uploading and maintaining content to web pages. | |
|---|---|
| Level 1 | Uploading content to web page template. |
| Level 2 | Using a file exchange programme to upload and publish a website, such as FTP or HTTP. |
| Level 3 | Improving the loading speed of a website. |

# Artwork and imaging software

This is the ability to use a software application designed to create, modify and layout artwork or images for display in print or on a screen (eg painting, drawing, photo manipulation and desk top publishing).

**A level 1 job role is likely to involve:**
- creating simple artwork and images (eg simple shapes, text and arrows, clip art or a picture from a digital camera for a presentation slide).

**In addition a level 2 job role is likely to involve:**
- creating more complex artwork and images (eg work flow process maps, sketches, edited photos or logos).

**In addition a level 3 job role is likely to involve:**
- creating technically complex artwork and images (eg cover artwork for a company journal, the content and layout of newsletter or touching up and taking out unwanted elements from a photograph).

| The competent person can: | This will involve applying the following knowledge and understanding: | This will involve effective use of the following skills and techniques: |
|---|---|---|
| **Level 1**<br>Use software to produce appropriate simple artwork and images. | • How to **produce information** that is suitable.<br>• Simple **artwork and images.**<br>• What **file formats** there are.<br>• What **laws and guidelines** there are about using IT. | • **Handling files**.<br>• **Creating drawings, artwork and images** that are simple.<br>• **Inserting, manipulating and editing** simple artwork and images.<br>• **Combining information.**<br>• **Checking text;** and **Checking images.** |
| **Level 2**<br>Use software effectively to produce more complex artwork and images that communicate clearly. | • How to **produce information** that is clear and appropriate.<br>• More complex **artwork and images.**<br>• What **file formats** are appropriate for different tasks.<br>• What and how **laws and guidelines** affect the use of IT. | • **Handling files** appropriately.<br>• **Creating drawings, artwork and images** that are more complex.<br>• **Inserting, manipulating and editing** more complex artwork and images.<br>• **Combining information** of different types.<br>• **Checking text;** and **Checking images.** |
| **Level 3**<br>Use software efficiently to produce artwork and images that are technically complex. | • How to **produce information** that is well structured and fit for purpose.<br>• Technically complex **artwork and images**.<br>• The effect of **file formats** on image quality, format and size.<br>• How to communicate **laws and guidelines** about the use of IT. | • **Handling files** and converting them.<br>• **Creating drawings, artwork and images** that are technically complex.<br>• **Inserting, manipulating and editing** technically complex artwork and images.<br>• **Combining information** that is complex.<br>• **Checking text;** and **Checking images.** |

## Knowledge and understanding

| **Produce information**<br>How to produce information that communicates effectively and accurately, taking into account time, content, meaning and organisation of the information and the needs of the audience. | |
|---|---|
| Level 1 | Know who and what the information is for, where it will be used (eg on screen or hard copy) and when it is needed. |
| Level 2 | How to produce information that communicates clearly and accurately with the audience, where and when it is needed. |
| Level 3 | How to produce information that communicates effectively, by structuring the content to take account of different contexts and audience needs. |

| **Artwork and images**<br>Different types of artwork and images. | |
|---|---|
| Level 1 | How to produce simple artwork and images that are appropriate in terms of size, orientation and content. Simple artwork and images require limited understanding and skills to produce, for example simple shapes, clip art or a picture from a digital camera. |
| Level 2 | How to produce more complex artwork and images for a wide variety of uses. More complex artwork and images involve more understanding and skills to produce, such as in using layout grids in DTP software or filters and effects in image manipulation software. |
| Level 3 | How to produce technically complex artwork and images that communicate effectively. Technically complex artwork and images involve considerable understanding, skills and techniques to produce, such as creating and using styles sheets in DTP software or creating and using masks and layers in image manipulation or illustration software. |

| **File formats**<br>The format of files for artwork and images. | |
|---|---|
| Level 1 | How to save files in digital picture format (eg jpeg and psd), as bitmaps (bmp) and vector graphics (eg tiff, pct and gif).<br>Which formats take up more or less space than others. |
| Level 2 | What file formats are suitable for websites (eg bmp, jpeg and gif).<br>What file formats suitable for print publishing that are application specific and more common (eg psd, eps, rtf or html). |
| Level 3 | The concepts and limitations of different image file formats.<br>What impact of file format, compression technique, image resolution and colour depth have on file size and image quality.<br>How to save files efficiently and effectively for the intended use. |

| **Laws and guidelines**<br>What laws and guidelines affect people's use of IT. | |
|---|---|
| Level 1 | What laws and guidelines affect day-to-day use of IT, such as about data protection, equal opportunities, disability, health and safety, copyright and guidelines set by your employer or organisations. |
| Level 2 | What and how different IT activities are affected by laws and guidelines, such as storing names and address, downloading images from the Internet or sending inappropriate e-mails. |
| Level 3 | What other people need to know about the laws and guidelines that affect using IT.<br>How to communicate with people about the laws and guidelines. |

## Skills and techniques

| **Handling files**<br>File handling techniques appropriate for the software in use. | |
|---|---|
| Level 1 | Using basic file handling techniques for the software, such as create, open, save (as) and print. |
| Level 2 | Using appropriate techniques to handle, organise and save files. |
| Level 3 | Converting files to another suitable format, where necessary. |

| **Creating drawings, artwork and images**<br>Creating drawings, artwork and images that are simple, more complex and technically complex. | |
|---|---|
| Level 1 | Drawing basic shapes.<br>Creating artwork by combining text, pictures and other elements, such as lines, boxes and arrows.<br>Downloading digital pictures from a camera. |
| Level 2 | Choose and using the most suitable software tools and techniques for creating artwork and images and drawing more complicated shapes, such as painting, drawing, DTP or image manipulation software.<br>Taking account of the following when creating artwork and images:<br>• page or canvas size,<br>• colour mode, and<br>• file size and format. |
| Level 3 | Creating technically complex artwork and images in a variety of different software tools and techniques, such as:<br>• images using layers for different elements (eg background, picture and text),<br>• artwork with bleeds and crossovers, or<br>• three dimensional (3D) objects and pictures.<br>Taking account of the following when creating artwork and images:<br>• image resolution, and<br>• method of display or printing. |

| **Inserting, manipulating and editing artwork and images**<br>Inserting, manipulating and editing artwork and images. | |
|---|---|
| Level 1 | Using basic tools and techniques appropriately, such as:<br>• insert clip art and digital images;<br>• align, rotate, flip and arrange drawing objects;<br>• cut, paste, crop, trim and resize drawing objects and pictures; and<br>• insert text and change the font, text and colour in drawing objects, artwork and pictures. |
| Level 2 | Using common tools and techniques appropriately, such as:<br>• group and ungroup;<br>• filters to create special effects; and<br>• editing existing templates (eg for letterhead, mail shot or poster). |
| Level 3 | Using editing techniques that are appropriate to the package, such as:<br>• formatting, text flow, columns, linking text, text wrap, picture boxes, frames, picture usage, style sheets, templates and layout grids using DTP software;<br>• transform, scale, rotate, distort, filters, effects, colour balance, levels and curves, masks and layers using image manipulation software; and<br>• layering, grouping, three dimensional (3D) objects and tracing using illustration software.<br>Changing the resolution, colour depth and file format of images to suit different uses.<br>Adjusting images to ensure compatibility between different software and operating systems. |

| **Checking images**<br>Checking images to make sure that they are effective and fit for purpose. | |
|---|---|
| Level 1 | Checking size, alignment and orientation of images.<br>Checking file format is suitable. |
| Level 2 | Checking colour mode and filters are used appropriately.<br>Checking image resolution is suitable for where and how it will be used. |
| Level 3 | Checking that the colour depth and file format are suitable.<br>Checking speed of loading images on a web browser, where appropriate.<br>Checking compatibility of images with different software and operating systems, where appropriate. |

| **Checking text**<br>Checking text to make sure that it is accurate, consistent and well laid out. | |
|---|---|
| Level 1 | Using spell check, grammar check and word count to check the accuracy of simple text. |
| Level 2 | Using proof reading techniques to check that text looks professional.<br>Checking line, paragraph and page breaks fall in appropriate places, and check that headings, subheadings and other formatting techniques are used appropriately. |
| Level 3 | Checking that structure, style and formatting are used to aid meaning in complex text. |

# Presentation software

This is the ability to use software applications to produce presentations, which include a combination of media (eg photos from digital cameras, animation and sound) for education, entertainment or information sharing.

**A level 1 job role is likely to involve:**
- producing simple presentations (eg text-based or diagram-based slide shows and lecture notes).

**In addition a level 2 job role is likely to involve:**
- producing more complex presentations (eg slide shows with animation).

**In addition a level 3 job role is likely to involve:**
- producing technically complex presentations (eg including video and sound clips).

| The competent person can: | This will involve applying knowledge and understanding of: | This will involve effective use of the following skills and techniques: |
|---|---|---|
| **Level 1**<br>Use presentation software to produce simple presentations. | • How to **produce information** that is suitable.<br>• Simple text-based or diagram-based **presentations.** | • **Handling files**.<br>• **Combining information.**<br>• **Editing presentations; Checking presentations;** and **Formatting slides** using basic tools and techniques**.**<br>• **Presenting slides** in simple presentations. |
| **Level 2**<br>Use presentation software effectively to produce more complex presentations that communicate clearly and accurately. | • How to **produce information** that is clear and appropriate.<br>• More complex **presentations.**<br>• How to add **images, objects and sound.** | • **Handling files** appropriately.<br>• **Editing presentations; Checking presentations;** and **Formatting slides** that are more complex**.**<br>• **Presenting slides** so that others can use them**.**<br>• **Producing presentations**. |
| **Level 3**<br>Use presentation software efficiently to produce technically complex and interactive presentations that communicate effectively. | • How to **produce information** that is well structured and fit for purpose.<br>• Technically complex and interactive **presentations.**<br>• How to use **images, objects and sound** to enhance presentations. | • **Handling files** and converting them.<br>• **Combining information** that is complex.<br>• **Editing presentations; Checking presentations;** and **Formatting slides** that are technically complex**.**<br>• **Presenting slides** in different formats.<br>• **Producing presentations** that are technically complex and interactive**.** |

## Knowledge and understanding

| **Produce information**<br>How to produce information that communicates effectively and accurately, taking into account time, content, meaning and organisation of the information and the needs of the audience. | |
|---|---|
| Level 1 | Know who and what the information is for, where it will be used (eg on screen or hard copy) and when it is needed. |
| Level 2 | How to produce information that communicates clearly and accurately with the audience, where and when it is needed. |
| Level 3 | How to produce information that communicates effectively, by structuring the content to take account of different contexts and audience needs. |

| **Presentations**<br>Different types of presentations. | |
|---|---|
| Level 1 | How to produce simple presentations that are accurate and well laid out. Simple presentations are made up of electronic slides that are mainly text or mainly diagrams or pictures. |
| Level 2 | How to produce more complex presentations for a wide variety of uses. More complex presentations consist of electronic slides that include animation. They are well structured and appropriately styled so that they communicate effectively. |
| Level 3 | How to produce technically complex and interactive presentations. Technically complex and interactive presentations need to be produced using time-line based tools and may include sound and moving images. |

| **Images, objects and sound**<br>How to include images, objects and sound. | |
|---|---|
| Level 1 | How to insert text and picture and import other objects. |
| Level 2 | How to include still images (eg downloading photos from a digital camera) and other objects produced using different software. |
| Level 3 | How to include digitised sound and moving images, such as by recording sound through a computer, digitising sound from a microphone and capturing video.<br>What sound and image formats are suitable. |

## Skills and techniques

| **Handling files**<br>File handling techniques appropriate for the software in use. | |
|---|---|
| Level 1 | Using basic file handling techniques for the software, such as create, open, save (as) and print. |
| Level 2 | Using appropriate techniques to handle, organise and save files. |
| Level 3 | Converting files to another suitable format, where necessary. |

| **Combining information**<br>Ways of combining information of various types. | |
|---|---|
| Level 1 | Using basic techniques to combine information, such as insert, size and position. |
| Level 2 | Linking information within the same type of software.<br>Adding information from one type of software to information produced using different software, such as a spreadsheet graph to a word processing document; text to an image file; picture to a presentation slide; or simple information from a database onto a website. |
| Level 3 | Exporting and importing, link objects between different software.<br>Make references to external data, such as hyperlinks, object linking and embedding.<br>Using advanced techniques for combining or merging versions of information from different users. |

| **Editing presentations**<br>Editing presentations using basic and more complex techniques. | |
|---|---|
| Level 1 | Using basic editing techniques appropriately for simple presentations, such as:<br>• inserting and manipulating text and pictures, and<br>• adding lines and simple shapes to slides. |
| Level 2 | Using a wide range of editing techniques appropriately for more complex presentations, such as:<br>• inserting objects and other resources,<br>• resizing images, and<br>• changing the position or orientation of other objects. |
| Level 3 | Using a wide range of editing techniques to produce technically complex and interactive presentations, such as:<br>• for cutting, rendering and exporting video clips, and<br>• for digitising and cutting sound clips from a microphone. |

| **Checking presentations**<br>Checking content to make sure that it is accurate, appropriate and well structured. | |
|---|---|
| Level 1 | Using spell check, grammar check and word count to check the accuracy of text.<br>Checking size, alignment and orientation of images or other objects. |
| Level 2 | Using proof reading techniques to check that text and images look professional.<br>Checking text formatting techniques are used appropriately.<br>Checking images and other objects are positioned and edited appropriately. |
| Level 3 | Checking sound and moving images are edited appropriately.<br>Checking that structure, style and formatting are used to communicate effectively.<br>Rehearsing and checking timing of a slide show. |

| **Formatting slides**<br>Formatting simple and more complex slides and presentations. | |
|---|---|
| Level 1 | Formatting simple presentations using appropriate tools and techniques, such as for:<br>• aligning text, bullets, numbering, line spacing, and<br>• adjusting colour, fonts, size, background, pictures and other objects. |
| Level 2 | Formatting complex presentations using appropriate tools and techniques, such as changing colour schemes for slides or using an organisational house style. |
| Level 3 | Formatting technically complex and interactive presentations using appropriate tools and techniques, such as:<br>• creating a master slide to format consistently,<br>• using different formats in each section, and<br>• creating different slide transitions. |

| **Producing presentations**<br>Producing more complex and interactive presentations. | |
|---|---|
| Level 1 | Not applicable |
| Level 2 | Choosing an appropriate method and presentation style to suit audience needs.<br>Choosing, using and adjusting templates for presentations. |
| Level 3 | Creating interactive slides using time-line based tools.<br>Creating new scenes using video editing software. |

| **Presenting slides**<br>Presenting slides in different ways. | |
|---|---|
| Level 1 | Viewing and reordering slides.<br>Presenting electronic slides as a slide show.<br>Printing a presentation in the form of handouts. |
| Level 2 | Saving a presentation as a slide show.<br>Printing speaker notes. |
| Level 3 | Playing sound through a computer as part of a presentation.<br>Saving presentation slides as a standalone show and as web pages. |

# Specialist or bespoke software

This is the ability to select and use a suitable specialist or bespoke software application to carry out an appropriate task. It includes understanding the capabilities of the software and the types of tasks for which it is suitable, as well as the skills and techniques needed to use the software application appropriately and effectively.

Examples of specialist software include:
- accounts applications;
- logistics planning applications;
- computer aided design (CAD) applications;
- computer animation applications;
- digital video editing applications;
- music composition and editing applications; and
- project management applications.

Some organisations have software applications developed specifically for employees to be able to carry out particular tasks or activities (bespoke applications). For example, for customer relationship management, stock control, plant control, engineering diagnostics, credit management or analysing sales performance.

| The competent person can: | This will involve applying knowledge and understanding of: | This will involve effective use of the following skills and techniques: |
|---|---|---|
| **Level 1**<br>Use specialist or bespoke software appropriately for simple tasks. | • What the **purposes** for using IT are.<br>• What **tools and functions** are available and how to use them for simple tasks. | • **Handling files**.<br>• **Combining information.**<br>• **Entering, editing and processing information** for simple tasks.<br>• **Checking information** for simple tasks. |
| **Level 2**<br>Use specialist or bespoke software effectively for more complex tasks. | • What the **purposes** for using IT are and the capabilities of the software.<br>• What most **tools and functions** can be used for and how to use them for more complex tasks. | • **Handling files** appropriately.<br>• **Combining information** of different types**.**<br>• **Entering, editing and processing information** for more complex tasks.<br>• **Checking information** for more complex tasks. |
| **Level 3**<br>Exploit the capabilities of specialist or bespoke software to carry out technically complex tasks. | • What the **purposes** for using IT are and how to improve its use.<br>• How to exploit the capabilities of most of the **tools and functions** of the software application. | • **Handling files** and converting them.<br>• **Combining information** that is more complex.<br>• **Entering, editing and processing information** for technically complex tasks.<br>• **Checking information** for technically complex tasks. |

## Knowledge and understanding

| **Purposes**<br>What the purposes for using IT are and how to judge whether the software chosen was appropriate. | |
|---|---|
| Level 1 | Why the software that was used was appropriate for the task. |
| Level 2 | Why and how using the software was an appropriate way of carrying out the task. |
| Level 3 | 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**<br>What the tools and functions of software can do. | |
|---|---|
| Level 1 | What the basic tools and functions of software applications can be used for.<br>How to choose and use appropriate tools and functions for simple tasks. |
| Level 2 | What most tools and functions of the software applications can be used for.<br>How to select and use appropriate tools and functions for more complex tasks. |
| Level 3 | How to exploit the capabilities of most of the tools and functions of software applications. |

## Skills and techniques

| **Handling files**<br>File handling techniques appropriate for the software in use. | |
|---|---|
| Level 1 | Using basic file handling techniques for the software, such as create, open, save (as) and print. |
| Level 2 | Using appropriate techniques to handle, organise and save files. |
| Level 3 | Converting files to another suitable format, where necessary. |

| **Combining information**<br>Ways of combining information of various types. | |
|---|---|
| Level 1 | Using basic techniques to combine information, such as insert, size and position. |
| Level 2 | Linking information within the same type of software.<br>Adding information from one type of software to information produced using different software, such as a spreadsheet graph to a word processing document; text to an image file; picture to a presentation slide; or simple information from a database onto a website. |
| Level 3 | Exporting and importing, link objects between different software.<br>Making references to external data, such as hyperlinks, object linking and embedding.<br>Using advanced techniques for combining or merging versions of information from different users. |

| **Entering, editing and processing information**<br>Tools and techniques for entering, editing and processing information will vary according to the software being used and whether the information is text, numbers or images. | |
|---|---|
| Level 1 | Using appropriate basic techniques for entering, editing and processing information when carrying out simple tasks, such as:<br>• insert and delete,<br>• cut, copy and paste,<br>• drag and drop, and<br>• find and replace. |
| Level 2 | Carrying out more complex tasks using appropriate tools and techniques for entering, editing and processing information. |
| Level 3 | Carrying out technically complex tasks that exploit the capabilities of the software tools and techniques for entering, editing and processing information, such as:<br>• working with extensive and technically complex information;<br>• customising the functions of the application to make it more efficient;<br>• modifying the way the information is analysed or presented; or<br>• planning and setting up new ways of analysing, processing or presenting information. |

| **Checking information**<br>Checking techniques will vary according to the type of information to be communicated. | |
|---|---|
| Level 1 | Using appropriate techniques to check simple information, such as:<br>• the accuracy of text,<br>• that figures are entered correctly, and<br>• the labelling and size of images, charts and diagrams. |
| Level 2 | Using appropriate techniques to check more complex information. |
| Level 3 | Using appropriate techniques to check technically complex information. |

# Evaluate the impact of IT

This is the ability to evaluate the impact of using IT in a variety of situations, such as home, work, school or other environment.

**A level 1 job role is likely to involve:**
- someone analysing their own use of IT (eg as part of a self-appraisal scheme).

**In addition a level 2 job role is likely to involve:**
- analysing other people's use of IT (eg working out what help to get for someone in using IT).

**In addition a level 3 job role is likely to involve:**
- evaluating how to improve IT use (eg analysing costs and benefits of making changes to the use of IT).

| The competent person can: | This will involve applying knowledge and understanding of: | This will involve effective use of the following skills and techniques: |
|---|---|---|
| **Level 1**<br>Identify simple benefits and drawbacks in using IT. | • What effects IT use has on **individuals and organisations**.<br>• How IT can **improve access** to information.<br>• The **health and safety issues** of using IT.<br>• What day-to-day **security risks** there may be.<br>• Ways of **improving learning** by using IT. | • **Analysing and evaluating** benefits and difficulties.<br>• Get help with **learning** IT skills. |
| **Level 2**<br>Analyse information and draw fair conclusions about the benefits and drawbacks of using IT. | • How IT changes what **individuals and organisations** do.<br>• How to **improve access** to using IT.<br>• How to identify **health and safety issues** in using IT.<br>• What common **security risks** there may be.<br>• Benefits and drawbacks to **improving learning.** | • **Analysing and evaluating** the impact of IT use.<br>• Planning and **learning** IT skills. |
| **Level 3**<br>Analyse and evaluate a wide range of evidence about IT use and be able to give well-considered reasons to support the conclusions drawn. | • How **individuals and organisations** are effected in different ways by using IT.<br>• How IT can **improve access** to information and services.<br>• How to help others to identify **health and safety issues** in using IT.<br>• What potential **security risks** there may be.<br>• **Improving learning** for other people. | • **Analysing and evaluating** the broader impacts of IT use.<br>• Supporting others in **learning** IT skills. |

## Knowledge and understanding

| **Individuals and organisations**<br>How IT use effects individuals and organisations, such as the Internet, intranets and ATMs | |
|---|---|
| Level 1 | What ways that using IT effects what people do, such as at home, work, school or other environment. |
| Level 2 | How what people do is changing because of using IT.<br>What benefits there may be in gathering and organising business information using IT, such as storing and maintaining customer details or keeping sales records.<br>How using on line services, such as banking, mailing lists and shopping is changing people's access to information.<br>Where and how to find information about changes and developments to IT hardware and software. |
| Level 3 | What social, economic, environmental, ethical and moral issues affect own and other people's use of IT.<br>How opportunities for e-commerce are changing the ways businesses sell and market their products and services and interact with their customers.<br>How effectively IT is used within an organisation, such as by:<br>• comparing how individuals, departments and the whole organisation uses IT;<br>• identifying improvements to what and how IT is used;<br>• analysing the costs and benefits of making changes to the use of IT; or<br>• assessing the use of IT when developing an overall business improvement strategy. |

| **Improve access**<br>How to improve people's access to finding information and using IT. | |
|---|---|
| Level 1 | How using the Internet or networked computers can help people to access information more easily than getting information in other ways. |
| Level 2 | Difficulties that some people have in using IT, such as needing special equipment because of a disability.<br>Difficulties that some people may have in accessing documents that have been produced using IT, such as needing larger sized print or screen reading software.<br>Where to get advice about software or equipment that can help people use IT, such as voice recognition or screen reading software or disability aids. |
| Level 3 | What effects there may be on people that:<br>• cannot use IT; or<br>• cannot access information using IT. |

| **Health and safety issues**<br>The health and safety issues involved in using IT. | |
|---|---|
| Level 1 | Health and safety risks to self in using IT.<br>Health and safety risks to others from common hardware.<br>What health and safety laws and guidelines affect the use of IT. |
| Level 2 | Ways to keep risks to people to a minimum.<br>Ways to keep risks to hardware to a minimum. |
| Level 3 | How to explain health and safety risks to others.<br>What action can be taken to avoid health and safety risks to other people and hardware. |

| **Security risks**<br>Ways to keep security risks to a minimum. | |
|---|---|
| Level 1 | Risks to data from people, such as theft, viruses or unauthorised access.<br>Risks to data from the hardware or software not working properly, such as faults, errors or loss.<br>Risks of receiving and opening attachments from e-mails. |
| Level 2 | Risks of downloading software from the Internet. |
| Level 3 | Risks to computers and computer networks linked to the Internet.<br>Risks from disasters or other unforeseen events. |

| **Improving learning**<br>How IT can improve learning. | |
|---|---|
| Level 1 | What different types of IT-based learning materials and activities are available, such on CD-ROM or on the Internet. |
| Level 2 | What are the benefits and drawbacks of web-based learning or e-learning compared with other methods of learning. |
| Level 3 | How to help other people's learning using IT. |

## Skills and techniques

| **Analysing and evaluating**<br>Analysing and evaluating the benefits and drawbacks of using IT in different settings. | |
|---|---|
| Level 1 | Deciding what makes tasks easier using IT than other ways of doing things.<br>Working out any difficulties that people have to do with using IT. |
| Level 2 | Gathering information to help make judgements.<br>Analysing information about how IT is used.<br>Evaluating the benefits and drawbacks of using IT.<br>Commenting on the impact of IT use. |
| Level 3 | Checking that sufficient information has been gathered to be able to make informed judgements about using IT.<br>Identifying appropriate criteria and using them to evaluate the benefits and drawbacks of where, when, how and by whom IT is used.<br>Drawing fair and valid conclusions about how IT is used.<br>Making recommendations about the use of IT. |

| **Learning**<br>Learning IT skills with help and advice from others. | |
|---|---|
| Level 1 | Getting help from an appropriate person or source when needed.<br>Seeking advice from a colleague or expert about the most appropriate learning opportunities to meet any skills gaps identified. |
| Level 2 | Identifying own learning needs in using IT, with help from other people.<br>Finding sources of information about opportunities for learning IT skills.<br>Using appropriate sources of information to find out about developments in using IT.<br>Getting advice about the most suitable ways of learning. |
| Level 3 | Giving advice to other people about how to use IT and correct IT errors.<br>Helping others to identify skills gaps and learning needs.<br>Helping others to find information about developments in the use of IT.<br>Choosing the best methods for individuals or groups to learn IT skills. |

# Export Areas of Competence

# General uses of IT

This is the ability to make general use of IT by using IT systems, using IT to find information, using IT software and understanding the purposes for using IT.

**A level 1 job role is likely to involve:**

- simple tasks (eg sending a message, producing a letter, tracking house-hold bills, keeping addresses, making a slide for a presentation or finding information on an intranet or the world wide web).

**In addition a level 2 job role is likely to involve:**

- more complex tasks (eg producing a business letter, keeping a project budget, editing a photo for a brochure or filling in form on a web page)

**In addition a level 3 job role is likely to involve:**

- complex tasks (eg creating an illustrated newsletter, reporting the results of a survey about client's needs, creating an animated slide show or producing a web page).

| The competent person can: | This will involve applying knowledge and understanding of: | This will involve effective use of the following skills and techniques: |
|---|---|---|
| **Level 1**<br>Use a computer and appropriate software to carry out simple tasks. | • What the **purposes** for using IT are and how to judge whether the IT system or software is appropriate.<br>• How to **produce information** that is suitable.<br>• The **health and safety** issues of using IT. | • **Handling files**.<br>• **Editing, formatting and checking information** for simple tasks.<br>• **Searching** for information. |
| **Level 2**<br>Use appropriate IT systems and software to carry out more complex tasks. | • What and how appropriate the **purposes** for using IT are.<br>• How to **produce information** that is clear and appropriate.<br>• How to identify **health and safety issues** in using IT. | • **Handling files** appropriately.<br>• **Editing, formatting and checking information** for more complex tasks.<br>• **Searching** for relevant information efficiently. |
| **Level 3**<br>Use appropriate IT systems and software effectively to carry out complex tasks. | • What the **purposes** for using IT are and how to improve its use.<br>• How to **produce information** that is well structured and fit for purpose.<br>• How to help others to identify **health and safety issues** in using IT. | • **Handling files** and converting them.<br>• **Editing, formatting and checking information** more for complex tasks.<br>• **Searching** for relevant information efficiently. |

## Knowledge and understanding

| **Purposes**<br>What the purposes for using IT are and how to judge whether the IT system and software chosen was appropriate. | |
|---|---|
| Level 1 | Why the IT system and software that was used was appropriate for the task. |
| Level 2 | Why and how using the IT system and software was an appropriate way of carrying out the task. |
| Level 3 | What changes could be made to the way that the IT system and software was used to make tasks that are similar, easier or more successful in the future. |

| **Produce information**<br>How to produce information that communicates effectively and accurately, taking into account time, content, meaning and organisation of the information and the needs of the audience. | |
|---|---|
| Level 1 | Know who and what the information is for, where it will be used (eg on screen or hard copy) and when it is needed. |
| Level 2 | How to produce information that communicates clearly and accurately with the audience, where and when it is needed. |
| Level 3 | How to produce information that communicates effectively, by structuring the content to take account of different contexts and audience needs. |

| **Health and safety issues**<br>The health and safety issues involved in using IT. | |
|---|---|
| Level 1 | Health and safety risks to self in using IT.<br>Health and safety risks to others from common hardware.<br>What health and safety laws and guidelines affect the use of IT. |
| Level 2 | Ways to keep risks to people to a minimum.<br>Ways to keep risks to hardware to a minimum. |
| Level 3 | How to explain health and safety risks to others.<br>What action can be taken to avoid health and safety risks to other people and hardware. |

## Skills and techniques

| **Handling files**<br>File handling techniques appropriate for the software in use. | |
|---|---|
| Level 1 | Using basic file handling techniques for the software, such as create, open, save (as) and print. |
| Level 2 | Using appropriate techniques to handle, organise and save files. |
| Level 3 | Converting files to another suitable format, where necessary. |

| **Editing, formatting and checking information**<br>Techniques will vary according to the software being used and whether the information is text, numbers or images. | |
|---|---|
| Level 1 | Using basic editing techniques appropriately, such as:<br>• insert and delete,<br>• cut, copy and paste,<br>• drag and drop, and<br>• find and replace.<br>Checking accuracy of documents. |
| Level 2 | Using appropriate editing and formatting tools and techniques for more complex documents, such as:<br>• characters, lines, paragraphs and pages (word processing),<br>• entering data into existing forms (databases),<br>• clear cells, add and change rows and columns (spreadsheets),<br>• insert and change text and Clip Art (presentations and web pages), and<br>• draw basic shapes; resize, align, rotate, flip and arrange images (art and design).<br>Using proof reading techniques to check that documents look professional. |
| Level 3 | Using editing and formatting tools and techniques effectively for more complex documents, such as:<br>• change templates and styles,<br>• tabs, columns, tables, headers and footers (word processing),<br>• fill, sort and filter, add data to a chart, change the type of chart (spreadsheets),<br>• creating field names, structures and data types and using indexes (databases),<br>• insert digital pictures and other objects (presentations and web pages), and<br>• draw more complex shapes; use filters, effects, masks, layers and grouping (art and design).<br>Checking that structure, style and formatting are used to communicate effectively. |

| **Searching**<br>Searching for information on the Internet or an intranet. | |
|---|---|
| Level 1 | Using a search engine to find and select appropriate information.<br>Use suitable techniques to make it easier to find useful information again (eg bookmarks or favourites) and to pass it on to others (eg sending web pages and web links via e-mail).<br>Keeping records of where useful information came from.<br>Saving the results of searches, so useful information can be found again. |
| Level 2 | Choosing a search engine that is appropriate for the information that is needed.<br>Carrying out searches efficiently, such as by using meta search engines, wild cards, AND or NOT (Boolean notation). |
| Level 3 | As level 2 |

# Use IT systems

This is the ability to set up and use hardware day-to-day, protect hardware, software and the data within an IT system.

**A level 1 job role is likely to involve:**
- setting up and using computer hardware safely (eg a personal computer (PC) or laptop, with printer and modem attached, a personal digital assistant (PDA) or hand held computer); and
- protecting software and personal data.

**In addition a level 2 job role is likely to involve:**
- setting up and using different types of hardware (eg an external disc drive, a digital camera, web cam or scanner);
- accessing data from different storage media networks (eg a floppy disc, CD-ROM, DVD, local area network (LAN) or wide area network (WAN)) and
- knowing how to avoid common security risks and restrict access to software and data.

**In addition a level 3 job role is likely to involve:**
- access software from networks; and
- help to improve the protection of software and data for self and others.

| The competent person can: | This will involve applying knowledge and understanding of: | This will involve effective use of the following skills and techniques: |
|---|---|---|
| **Level 1**<br>Carry out the initial steps needed to use hardware and protect software and personal data. | • What common **types of computer hardware** are and how to use them.<br>• What common **errors** may happen and how to sort them out.<br>• The **health and safety issues** of using IT.<br>• What day-to-day **security risks** there may be.<br>• Where to get **advice**. | • **Setting up** computer hardware.<br>• **Accessing** information held on a computer.<br>• **Protecting** software and personal data. |
| **Level 2**<br>Set up and use hardware safely and protect software and data appropriately. | • What most **types of computer hardware** are and how to use them.<br>• **Errors** on most types on hardware and software and with data.<br>• How to identify **health and safety issues** in using IT.<br>• What common **security risks** there may be.<br>• What **advice** is available and how to get it. | • **Setting up** different types of hardware safely.<br>• **Accessing** data from networks.<br>• **Protecting** software and data in different ways. |
| **Level 3**<br>Effectively set up and use different types of hardware and protect own and others use of software and data. | • What most **types of computer hardware** are and how to get the best out of them.<br>• Technically complex or serious **errors.**<br>• How to help others to identify **health and safety issues** in using IT.<br>• What potential **security risks** there may be.<br>• How to give **advice** to other users. | • **Setting up** most types of hardware safely.<br>• **Accessing** data and network software.<br>• **Protecting** own and others use of software and different types of data. |

## Knowledge and understanding

| **Types of computer hardware**<br>What different types of computer hardware are and how to use them. | |
|---|---|
| Level 1 | What common types of computer hardware are.<br>How to start up a computer.<br>How to use common types of hardware. |
| Level 2 | What most types of computer hardware are.<br>What storage media are available, such as hard disc, floppy discs or CD ROMs.<br>How to use most types of hardware and storage media. |
| Level 3 | How to choose, use and connect appropriate combinations of hardware. |

| **Errors**<br>The causes of errors and problems and how to sort them out. | |
|---|---|
| Level 1 | What errors often happen and how to sort them out, to do with common hardware and software.<br>How to get information about the hardware, operating system and software being used that will help an expert to give advice on solving errors. |
| Level 2 | What errors and problems can be corrected from experience, to do with:<br>• most hardware and storage media;<br>• most software;<br>• combinations of hardware and software;<br>• data; and<br>• viruses. |
| Level 3 | What technically complex or serious errors and problems may occur and how to respond to them, to do with:<br>• installing software;<br>• dial-up networking and modem connections;<br>• other ways of connecting to the Internet; and<br>• intermittent errors. |

| **Health and safety issues**<br>The health and safety issues involved in using IT. | |
|---|---|
| Level 1 | Health and safety risks to self in using IT.<br>Health and safety risks to others from common hardware.<br>What health and safety laws and guidelines affect the use of IT. |
| Level 2 | Ways to keep risks to people to a minimum.<br>Ways to keep risks to hardware to a minimum. |
| Level 3 | How to explain health and safety risks to others.<br>What action can be taken to avoid health and safety risks to other people and hardware. |

| **Security risks**<br>Ways to keep security risks to a minimum. | |
|---|---|
| Level 1 | Risks to data from people, such as theft, viruses or unauthorised access.<br>Risks to data from the hardware or software not working properly, such as faults, errors or loss.<br>Risks of receiving and opening attachments from e-mails. |
| Level 2 | Risks of downloading software from the Internet. |
| Level 3 | Risks to computers and computer networks linked to the Internet.<br>Risks from disasters or other unforeseen events. |

| **Advice**<br>When and where to seek advice on technical errors and problems. | |
|---|---|
| Level 1 | How to contact an IT help desk or service.<br>How to follow verbal instructions from an IT expert.<br>Recognise there is a problem or error.<br>Recognise the limits of own understanding and skills. |
| Level 2 | Where and how to find advice on common errors with most hardware and software. |
| Level 3 | How to give advice to other users about common errors.<br>Where and how to find advice on more complex or serious technical errors. |

## Skills and techniques

| **Setting up**<br>Setting up computer hardware and storage media. | |
|---|---|
| Level 1 | Turning on and using a personal computer (PC) and printer.<br>Changing basic settings, such as sound volume, date and time. |
| Level 2 | Connecting up a computer with other hardware and storage media safely.<br>Linking a computer to other hardware safely. |
| Level 3 | Connecting up most types of hardware and storage media safely. |

| **Accessing**<br>Accessing files, networks and network software. | |
|---|---|
| Level 1 | Accessing files on a computer hard drive or local storage media. |
| Level 2 | Accessing files on a local area network (LAN) or a wide area network (WAN). |
| Level 3 | Accessing remote networks and network software. |

| **Protecting**<br>Protecting hardware, software and data. | |
|---|---|
| Level 1 | Using a login identity (ID) and password to access computer systems.<br>Storing personal data and software safely.<br>Backing up data following recommended guidelines.<br>Using anti-virus software to protect applications. |
| Level 2 | Setting password levels on software and data.<br>Making backups of operating system data, where necessary.<br>Downloading software patches to fix any security flaws.<br>Taking appropriate action to keep risks to a minimum, when downloading software.<br>Taking action to avoid risks from receiving and opening attachments from e-mails. |
| Level 3 | Considering and evaluating levels of security risk for different users.<br>Using settings on the operating system to provide different levels of access for different users.<br>Improving the use of passwords and other methods of protecting data and software.<br>Using and maintaining contingency systems to keep the effects of security breaches to a minimum.<br>Making recovery plans to deal with the effects of disasters and other unforeseen events. |

# Use IT to exchange information

This is the ability to send and receive messages and access and retrieve information using browser software from the Internet, intranets and the world-wide web.

**A level 1 job role is likely to involve:**
Basic e-mail facilities, such as:
- using address books to send e-mails to individuals;
- sending, receiving and opening attachments (eg digital pictures, word processing documents or spreadsheets); and
- using key words to search for information using a search engine.

**In addition a level 2 job role is likely to involve:**
More advanced e-mail facilities, such as:
- setting up groups of e-mail addresses;
- adding a signature;
- compressing and de-compressing file attachments; and
- choosing and using suitable search engines effectively

**In addition a level 3 job role is likely to involve:**
Making the most of e-mail facilities, such as setting up automatic redirection, using encryption and dealing with junk e-mail.

| The competent person can: | This will involve applying knowledge and understanding of: | This will involve effective use of the following skills and techniques: |
|---|---|---|
| **Level 1**<br>Use basic facilities of e-mail software to send and receive messages and find information using browser software. | • Basic **e-mail facilities.**<br>• What **problems with exchanging information** there may be and how to sort them out.<br>• What **laws and guidelines** there are about using e-mail. | • **Sending and receiving** e-mails using basic facilities.<br>• **Searching** for information. |
| **Level 2**<br>Use more advanced e-mail software facilities access and retrieve relevant information using browser software. | • More advanced **e-mail facilities.**<br>• Common **problems with exchanging information** and how to sort them out.<br>• What and how **laws and guidelines** affect using IT. | • **Sending and receiving** e-mails using more advanced facilities.<br>• **Searching** for relevant information efficiently. |
| **Level 3**<br>Use the full potential of e-mail software facilities and find relevant information using browser software. | • The full potential of **e-mail facilities.**<br>• Helping to avoid **problems with exchanging information**.<br>• How to communicate **laws and guidelines** about the use of IT. | • **Sending and receiving** e-mails using and changing settings.<br>• **Searching** for relevant information efficiently. |

## Knowledge and understanding

| **E-mail facilities**<br>Different facilities that are provided by e-mail software, such as tools, archive folders, address books and settings. | |
|---|---|
| Level 1 | E-mail messages.<br>Basic options for sending and replying.<br>How to send and receive attachments.<br>How to use an address book. |
| Level 2 | How to send e-mails to groups using a group list within an address book.<br>How to archive and compress e-mails.<br>What other resources may be provided by e-mail software and how to use them. |
| Level 3 | Options for redirecting e-mails.<br>What and how settings can be changed to effect what the e-mail software does and when.<br>When and how to use encryption software.<br>The benefits and limitations of different access methods. |

| **Problems with exchanging information**<br>What problems can happen and how to keep risks to a minimum. | |
|---|---|
| Level 1 | Why some computer users may have difficulty in sending and receiving e-mails with attachments.<br>What to do about e-mails from unknown users.<br>What viruses are and the problems they can cause.<br>How using anti-virus software can help to keep risks to a minimum.<br>What risks there may be in downloading documents and software.<br>Risks in sharing information, such as personal details.<br>Where and when to seek advice. |
| Level 2 | What to do about e-mails intended to cause problems, such as SPAM or chain-mails.<br>How to keep the difficulties of sending and receiving large e-mails to a minimum.<br>What limits there may be to the number or size of e-mails that can be received and stored.<br>How to avoid viruses. |
| Level 3 | How to change e-mail and browser settings to improve protection against risks.<br>How to identify whether problems are local (eg software or network errors) or linked to the service provided by the ISP. |

| **Laws and guidelines**<br>What laws and guidelines affect people's use of IT. | |
|---|---|
| Level 1 | What laws and guidelines affect day-to-day use of IT, such as about data protection, equal opportunities, disability, health and safety, copyright and guidelines set by your employer or organisations. |
| Level 2 | What and how different IT activities are affected by laws and guidelines, such as storing names and address, downloading images from the Internet or sending inappropriate e-mails. |
| Level 3 | What other people need to know about the laws and guidelines that affect using IT.<br>How to communicate with people about the laws and guidelines. |

## Skills and techniques

| **Sending and receiving**<br>Sending and receiving e-mails using the facilities provided by software. | |
|---|---|
| Level 1 | Using basic send commands, such as send to individuals, send carbon copies.<br>Using basic reply commands, such as receive, forward, reply to individuals, reply to all and reply with history.<br>Deleting e-mail.<br>Sending and opening e-mails with attachments.<br>Saving attachments to appropriate places.<br>Finding e-mails.<br>Following any rules and guidelines for sending and replying to emails. |
| Level 2 | Using more advanced facilities, such as add a signature or set the priority of messages.<br>Sending messages to groups of people using groups set up in an address book.<br>Sending and receiving instant messages with and without attachments.<br>Compressing messages on sending and un-compress messages that have been received.<br>Archiving e-mails where necessary, such as by using folders and subfolders. |
| Level 3 | Choosing and using the most appropriate method of accessing e-mail.<br>Arranging for received e-mails to be re-directed to specific e-mail boxes.<br>Using advanced settings within e-mail software, such as to manage junk e-mail or SPAM. |

| **Searching**<br>Searching for information on the Internet or an intranet. | |
|---|---|
| Level 1 | Using a search engine to find and select appropriate information.<br>Using suitable techniques to make it easier to find useful information again (eg bookmarks or favourites) and to pass it on to others (eg sending web pages and web links via e-mail).<br>Keeping records of where useful information came from.<br>Saving the results of searches, so useful information can be found again. |
| Level 2 | Choosing a search engine that is appropriate for the information that is needed.<br>Carrying out searches efficiently, such as by using meta search engines, wild cards, AND or NOT (Boolean notation). |
| Level 3 | As level 2 |

# Use IT software

This unit is about the ability to select and use a suitable software application to produce information for different tasks and uses. Software applications may be for:

- drafting a memo, report or CV (word processing);
- keeping track of expenses or producing graphs (spreadsheets);
- entering and retrieving addresses and phone numbers (databases);
- producing slide shows with text and diagrams (presentations);
- producing and uploading content for web pages (websites);
- producing drawings and changing digital pictures (art and design); or
- producing information using specialist software or software that has been built for an organisation (eg accounts, designs, plans, music or video).

**A level 1 job role is likely to involve:**

- using appropriate basic software tools and techniques to edit, format, check and produce documents (eg using word processing to draft a letter, making simple slides using presentation software, storing names and addresses in a database).

**In addition a level 2 job role is likely to involve:**

- using a range of appropriate software tools and techniques to edit, format, check and produce more complex information (eg preparing sales figures using a spreadsheet or producing a brochure using word processing).

**In addition a level 3 job role is likely to involve:**

- producing professional looking documents (eg changing photographs using digital imaging software or maintaining a website).

| The competent person can: | This will involve applying knowledge and understanding of: | This will involve effective use of the following skills and techniques: |
|---|---|---|
| **Level 1**<br>Use software to produce simple information.- | • How to **produce information** that is suitable. | • **Handling files**.<br>• **Combining information.**<br>• **Editing information;** and **Checking information** that is simple. |
| **Level 2**<br>Use software effectively to produce more complex information.- | • What and how appropriate the **purposes** for using IT are.<br>• How to **produce information** that is clear and appropriate. | • **Handling files** appropriately.<br>• **Combining information** of different types.<br>• **Editing information; Formatting information;**- and-<br>**Checking information** that is more complex. |
| **Level 3**<br>Use software efficiently to produce complex information.- | • What the **purposes** for using IT are and how to improve its use.<br>• How to **produce information** that is well structured and fit for purpose. | • **Handling files** and converting them to another format.<br>• **Combining information** that is more complex.<br>• **Editing information; Formatting information**; and<br>**Checking information** that is complex. |

## Knowledge and understanding

| **Purposes**<br>What the purposes for using IT are and how to judge whether the IT system and software chosen was appropriate. | |
|---|---|
| Level 1 | Not applicable |
| Level 2 | Why and how using the IT system and software was an appropriate way of carrying out the task. |
| Level 3 | What changes could be made to the way that the IT system and software was used to make tasks that are similar, easier or more successful in the future. |

| **Produce information**<br>How to produce information that communicates effectively and accurately, taking into account time, content, meaning and organisation of the information and the needs of the audience. | |
|---|---|
| Level 1 | Know who and what the information is for, where it will be used (eg on screen or hard copy) and when it is needed. |
| Level 2 | How to produce information that communicates clearly and accurately with the audience, where and when it is needed. |
| Level 3 | How to produce information that communicates effectively, by structuring the content to take account of different contexts and audience needs. |

## Skills and techniques

| **Handling files**<br>File handling techniques appropriate for the software in use. | |
|---|---|
| Level 1 | Using basic file handling techniques for the software, such as create, open, save (as) and print. |
| Level 2 | Using appropriate techniques to handle, organise and save files. |
| Level 3 | Converting files to another suitable format, where necessary. |

| **Combining information**<br>Ways of combining information of various types. | |
|---|---|
| Level 1 | Using basic techniques to combine information, such as insert, size and position. |
| Level 2 | Linking information within the same type of software.<br>Adding information from one type of software to information produced using different software, such as a spreadsheet graph to a word processing document; text to an image file; picture to a presentation slide; or simple information from a database onto a website. |
| Level 3 | Exporting and importing, link objects between different software.<br>Making references to external data, such as hyperlinks, object linking and embedding.<br>Using advanced techniques for combining or merging versions of information from different users. |

| **Editing information**<br>Editing techniques will vary according to the software being used, and whether the information is text, numbers or images. | |
|---|---|
| Level 1 | Using basic editing techniques appropriately to produce simple information, such as:<br>• insert and delete,<br>• cut, copy and paste,<br>• drag and drop, and<br>• find and replace. |
| Level 2 | Using a wide range of editing tools and techniques to produce more complex information, such as:<br>• for characters, lines, paragraphs and pages (word processing),<br>• enter data into existing forms (databases),<br>• add rows and columns, clear cells (spreadsheets),<br>• insert and change text and Clip Art (presentations and web pages), and<br>• draw basic shapes; resize, align, rotate, flip and arrange images (art and design). |
| Level 3 | Using a wide range of editing tools and techniques to produce complex information, such as:<br>• tabs, columns, tables, headers and footers (word processing),<br>• fill, sort and filter, add data to a chart, change the type of chart (spreadsheets),<br>• create field names, structures and data types and use indexes (databases),<br>• insert digital pictures and other objects (presentations and web pages), and<br>• draw more complex shapes; use filters, effects, masks, layers and grouping (art and design). |

| **Formatting information**<br>Techniques for formatting information will vary according to the software being used, and whether the information is text, numbers or images. | |
|---|---|
| Level 1 | Not applicable |
| Level 2 | Formatting more complex information using appropriate tools and techniques, such as:<br>• fonts (typeface) and type style (eg bold or italic),<br>• number format and decimal places,<br>• image, chart and diagram size and orientation.<br>Formatting more complex information in line with an organisational house style. |
| Level 3 | Formatting complex information using a wide range of appropriate tools and techniques, such as:<br>• character, line spacing, paragraphs and pages (word processing),<br>• cells, rows, columns and pages (spreadsheets),<br>• colour, fonts, size, background and pictures (presentations and web pages). |

| **Checking information**<br>Checking techniques will vary according to the type of information to be communicated. | |
|---|---|
| Level 1 | Using appropriate techniques to check simple information, such as:<br>• the accuracy of text,<br>• that figures are entered correctly, and<br>• the labelling and size of images, charts and diagrams. |
| Level 2 | Using appropriate techniques to check more complex information. |
| Level 3 | Using appropriate techniques to check complex information. |

# Purposes for using IT

This is the ability to make selective use of IT and evaluate its use in a variety of situations, such as home, work, school or other environment.

**A level 1 job role is likely to involve:**

- understanding how to make appropriate use of IT for a simple task (eg producing a letter, making a slide for a presentation, recording spending, keeping addresses, sending a message or drawing boxes and arrows to highlight information); and
- reviewing how well you used IT.

**In addition a level 2 job role is likely to involve:**

- knowing how different people may be able to access IT;
- understanding the laws and guidelines that effect the use IT; and
- understanding how to get the best from IT for a more complex task (eg producing a business letter, working out a monthly budget, creating a presentation with a sound track, editing a photo for a brochure or planning web pages for a website).

**In addition a level 3 job role is likely to involve:**

- understanding how to get the best from IT for a more complex task (eg 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); and
- helping others to improve their understanding and use of IT.

| The competent person can: | This will involve applying knowledge and understanding of: | This will involve effective use of the following skills and techniques: |
|---|---|---|
| **Level 1**<br>Work out how to use IT for simple tasks and how it can help. | • What the **purposes** for using software are and how to judge it is appropriate.<br>• How IT can **improve access** to information.<br>• What **laws and guidelines** there are about using IT. | • **Explaining** the use of IT with help from others.<br>• **Organising** information.<br>• **Reviewing** own use of IT with help and feedback from others. |
| **Level 2**<br>Work out how to use IT effectively for more complex tasks and purposes, taking account of their own skills and capabilities. | • What and how appropriate the **purposes** for using IT are.<br>• How to **improve access** to using IT.<br>• What and how **laws and guidelines** affect the use of IT. | • **Explaining** decisions and actions taken about using IT.<br>• **Organising** information.<br>• **Reviewing** own use of IT and feedback from others. |
| **Level 3**<br>Work out how to use IT effectively for complex tasks and purposes, taking account of their own and others skills and capabilities and the needs of the organisation. | • What the **purposes** for using IT are and how to improve its use.<br>• How IT can **improve access** to information and services.<br>• How to communicate **laws and guidelines** about the use of IT. | • **Explaining** and analysing the effectiveness of the use of IT.<br>• **Organising** complex information.<br>• **Reviewing** feedback on and impact of own use of IT. |

## Knowledge and understanding

| **Purposes**<br>What the purposes for using IT are and how to judge whether the IT system and software chosen was appropriate. | |
|---|---|
| Level 1 | Why the IT system and software that was used was appropriate for the task. |
| Level 2 | Why and how using the IT system and software was an appropriate way of carrying out the task. |
| Level 3 | What changes could be made to the way that the IT system and software was used to make tasks that are similar, easier or more successful in the future. |

| **Improve access**<br>How to improve people's access to finding information and using IT. | |
|---|---|
| Level 1 | How using the Internet or networked computers can help people to access information more easily than getting information in other ways. |
| Level 2 | Difficulties that some people have in using IT, such as needing special equipment because of a disability.<br>Difficulties that some people may have in accessing documents that have been produced using IT, such as needing larger sized print or screen reading software.<br>Where to get advice about software or equipment that can help people use IT, such as voice recognition or screen reading software or disability aids. |
| Level 3 | What effects there may be on people that:<br>• cannot use IT; or<br>• cannot access information using IT. |

| **Laws and guidelines**<br>What laws and guidelines affect people's use of IT. | |
|---|---|
| Level 1 | What laws and guidelines affect day-to-day use of IT, such as about data protection, equal opportunities, disability, health and safety, copyright and guidelines set by your employer or organisations. |
| Level 2 | What and how different IT activities are affected by laws and guidelines, such as storing names and address, downloading images from the Internet or sending inappropriate e-mails. |
| Level 3 | What other people need to know about the laws and guidelines that affect using IT.<br>How to communicate with people about the laws and guidelines. |

## Skills and techniques

| **Explaining (use of IT)**<br>Explaining decisions and actions about using IT. | |
|---|---|
| Level 1 | Describing what you are doing.<br>Giving simple reasons for choosing and using software tools and techniques that match tasks and uses. |
| Level 2 | Explaining which software tools and techniques were chosen and how effectively they were used for particular tasks and uses. |
| Level 3 | Analysing 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.<br>Identifying changes that could make similar tasks and purposes easier or more successful. |

| **Organising**<br>Organising information appropriately for the task. | |
|---|---|
| Level 1 | Choosing and use an appropriate format for organising information to suit when carrying out simple tasks. |
| Level 2 | Using a variety of IT software tools and techniques to structure information to suit more complex tasks and audience needs, such as using large print for partially sighted readers. |
| Level 3 | Using the full range of IT software tools and techniques to structure information to suit complex tasks and different audience needs. |

| **Reviewing**<br>Reviewing the effectiveness and appropriateness of own use of IT. | |
|---|---|
| Level 1 | Identifying the effect that own mistakes have on other people at work, with help and advice from other people. |
| Level 2 | Evaluating own strengths and weaknesses in using IT.<br>Take account of feedback from other people about own use of IT. |
| Level 3 | Reviewing how to share own skills and understanding to help others.<br>Evaluating feedback given on work produced and taking steps to improve any weaknesses.<br>Analysing the impact own work could have on other people or the organisation. |

# Index of Main AOC components

**Key for Main AOC**

Purple text – knowledge components that appear only once
Blue text – skills components that appear only once
Grey text – knowledge and skills components that appear in a number of AOC (numbered to show frequency)

| Main AOC | Knowledge and understanding | Skills and techniques |
|---|---|---|
| Make selective use of IT | • purposes - 1<br>• produce information –1<br>• terms for IT | • explaining - 1<br>• finding and evaluating - 1<br>• organising - 1<br>• reviewing - 1 |
| Operate a computer | • types of computer hardware - 1<br>• tools and functions - 1<br>• health and safety issues - 1<br>• compatibility - 1<br>• data transmission speeds. | • setting up - 1<br>• accessing - 1<br>• storage media<br>• tools and techniques<br>• installing<br>• customising software |
| IT trouble-shooting for users | • errors - 1<br>• advice - 1<br>• compatibility - 2 | • restarting<br>• correcting errors |
| IT maintenance for users | • maintenance<br>• health and safety issues - 2<br>• upgrading hardware & software | • managing files<br>• cleaning<br>• avoiding health & safety risks<br>• maintaining<br>• enhancing performance |
| IT security for users | • security risks - 1<br>• restrict access<br>• laws and guidelines - 1 | • protecting - 1 |
| Internet and intranets | • connection methods<br>• browser facilities<br>• information and other opportunities<br>• Internet security risks<br>• laws and guidelines - 2 | • searching - 1<br>• finding and evaluating - 2<br>• exchanging information - 1<br>• customising browser software |
| E-mail | • e-mail facilities - 1<br>• problems with e-mail<br>• laws and guidelines - 3 | • sending and receiving - 1<br>• exchanging information - 2<br>• address books and other facilities<br>• formatting e-mails |
| Word processing software | • produce information - 2<br>• word processing documents | • handling files - 1<br>• combining information - 1<br>• editing text<br>• formatting text<br>• laying out<br>• checking text - 1<br>• improving efficiency - 1 |
| Spreadsheet software | • produce information - 3 | • handling files - 2 |

| Main AOC | Knowledge and understanding | Skills and techniques |
|---|---|---|
| | • spreadsheets<br>• analyse and interpret | • combining information - 2<br>• editing spreadsheets<br>• formatting spreadsheets<br>• checking spreadsheets<br>• functions and formulas<br>• analysing and interpreting<br>• presenting<br>• improving efficiency - 2 |
| Database software | • database design<br>• field characteristics<br>• data integrity | • entering data<br>• modifying databases.<br>• formatting databases<br>• database queries<br>• database reports<br>• checking data<br>• improving efficiency - 3 |
| Website software | • produce information - 4<br>• websites<br>• website features<br>• laws and guidelines - 4<br>• user issues | • handling files -3<br>• combining information - 3<br>• planning and production<br>• editing, formatting and laying out content<br>• checking text - 2<br>• checking images - 1<br>• uploading |
| Artwork and imaging software | • produce information –5<br>• images<br>• file formats<br>• laws and guidelines - 5 | • handling files - 4<br>• creating drawings, artwork and images<br>• inserting, manipulating and editing artwork and images<br>• combining information - 4<br>• checking images - 2<br>• checking text - 3 |
| Presentation software | • produce information - 6<br>• presentations<br>• images, objects and sound | • handling files - 5<br>• combining information - 5<br>• editing presentations<br>• checking presentations<br>• formatting slides<br>• producing presentations<br>• presenting slides |
| Specialist or bespoke software | • purposes - 2<br>• tools and functions - 2 | • handling files - 6<br>• combining information - 6<br>• entering, editing and processing information<br>• checking information - 1 |
| Evaluate the impact of IT | • individuals and organisations<br>• improve access - 1<br>• health and safety issues - 3<br>• security risks - 2<br>• improving learning | • analysing and evaluating<br>• learning |

# Index of Export AOC components

Key for export AOC

Purple text – knowledge components that appear only once
Blue text – skills components that appear only once
Grey text – knowledge and skills components that have been imported from main AOC

| Export AOC | Knowledge and understanding | Skills and techniques |
|---|---|---|
| General uses of IT | • purposes - 3<br>• produce information - 7<br>• health and safety issues - 4<br>• laws and guidelines - 6 | • handling files - 7<br>• editing, formatting and checking information<br>• sending and receiving - 2 |
| Use IT systems | • types of computer hardware - 2<br>• errors - 2<br>• health and safety issues - 5<br>• security risks - 3<br>• advice - 2 | • setting up - 2<br>• accessing - 2<br>• protecting - 2 |
| Use IT to exchange information | • e-mail facilities - 2<br>• problems with exchanging information<br>• laws and guidelines - 7 | • sending and receiving - 3<br>• searching - 2 |
| Use IT software | • purposes - 4<br>• produce information - 8 | • handling files - 8<br>• combining information - 7<br>• editing information<br>• checking information - 2<br>• formatting information |
| Purposes for using IT | • purposes - 5<br>• improve access - 2<br>• laws and guidelines - 8 | • explaining (use of IT) - 2<br>• organising - 2<br>• reviewing - 2 |

# Appendix 1 Non-qualification uses of standards

In process, product & service assurance:

- as quality specifications for work processes and outcomes
- in the monitoring of work processes
- as specification for contract tendering, delivery & compliance
- as evidence of competence for other standards such as IIP, BS 5750, ISO 9000, etc

In job design, evaluation, recruitment & selection:

- for preparing job or recruitment specifications and advertisements
- as a format for collecting information from referees
- to identify required components of current and future roles or jobs
- as an interview checklist for selectors
- as advance information to job candidates/interviewees
- to specify induction and initial training
- to monitor the pattern of role or job responsibilities
- as criteria for staff grading, payment and reward

In identifying individual, organisational and national training needs:

- as an aid to analysing and quantifying skills availability in labour markets
- to monitor national and local skill supply shortages
- as specifications of the skill & competence needs of an organisation
- to identify individual, group & organisational learning and training needs
- as a format for individual action planning
- to identify previously acquired competence
- to link training to business objectives and national economic needs
- to identify learning opportunities in the workplace

In the delivery and evaluation of training and learning:

- to co-ordinate on-the-job & off-the-job provision
- to develop learning contracts and specific learning objectives
- to develop the knowledge content for learning programmes
- as a specification of required outcomes & targets for training providers
- to monitor, evaluate & select learning and training resources

In careers guidance & counselling:

- as a basis for information & advice for people entering a new career or changing jobs
- to assess aptitude & potential for a career or occupational area
- to identify common & potentially transferable skills in different careers or occupations
- as an analysis of local & national career opportunities in outcome terms

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