EDEXCEL FUNCTIONAL SKILLS PILOT

ICT

Chapter 2

Safety and security

Section A Working comfortably and safely

Section B Keeping information secure

1 Backup 4
2 Passwords 5

Section C The danger of computer viruses

1 Viruses 6
2 Spyware 6
3 What can I do to protect myself? 6

Section D Staying safe and respecting others

1 What is spam? 7
2 What should you do about it? 7
3 Social networks 7
4 Emailing tips 8

Section E Troubleshooting

1 Paper jamming in the printer 9
2 Application not responding 9
3 Suspect virus or spyware infection 10
4 Storage full 10

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EDEXCEL FUNCTIONAL SKILLS PILOT

ICT

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Draft for pilot centres

Chapter 2: Safety and security

Chapter 1: Using ICT systems
Chapter 2: Safety and security
Chapter 3: Find and select information
Chapter 4: Using ICT-based information
Chapter 5: Entering, developing and combining information (part A)
Chapter 6: Entering, developing and combining information (part B)
Chapter 7: Presenting information
Chapter 8: Communicating using ICT
Chapter 9: Test preparation

How to use the Functional ICT materials

These materials have been developed to help you learn the skills that are listed in the Functional Skills Standards for ICT, which the Qualifications and Curriculum Authority (QCA) produced in 2007.

How have these materials been structured?

The chapters follow the standards, and each chapter is divided into sections that cover the individual standards in sequence. You will find the standards at the start of each chapter, although we have adapted the language slightly to make it clear what you are expected to learn.

Just because the materials follow the standards in this way, it does not mean that your teacher will necessarily teach them in this order. They will organise your learning sessions to suit your individual needs.

Who are these materials aimed at?

These materials are for learners working at both Level 1 and Level 2. The content and activities have been written to be accessible to learners at both levels. Your teacher will know which activities are most suitable for you.

In functional skills, the difference between levels is more to do with what you produce than with the activities you are asked to do. The differences are measured by the **complexity** of the activities, your **familiarity** with the context you are working in and the task you've been asked to perform, how **technically demanding** the task is and how good you are at working **independently**. The materials, and their activities, have been developed with this in mind.

We hope that the materials will engage you in the learning process, and give you the opportunity to discuss what you have learned and to see how other learners approach the same tasks.

What will you find in each chapter?

The chapters follow the standards and are divided into sections that cover what is laid out in the standards. Within each section you are asked to 'Learn the skill', which gives you information and facts for discussion and exploration; and you are asked to 'Develop the skill', with activities that let you practise the skills, test your understanding and take your knowledge further.

You will also find two other features on the pages that are designed to increase your understanding. These are electronic resources in the form of 'skills demonstrations' and 'assets'.

Skills demonstrations are screen-based demonstrations of points made in the text, which you can click on for instruction or information.

Assets are files of information provided or stored digitally, which may include photographs, sound clips, databases, spreadsheets, etc. These may also include material you will need to perform the activities (e.g. tables to complete).

We hope you find it easy to learn from these materials and that you enjoy using them.

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2 Safety and security

By the end of this chapter you should be able to:

- work with computer equipment comfortably and safely to avoid possible personal harm
- troubleshoot simple problems

You will learn:

- about the health risks linked with extended use of computers
- about how to position your seating, keyboard, mouse and monitor
- to make copies and backups of computer files
- to set a password to control access to a file
- about the harm that can be caused by computer viruses
- about precautions when sending emails and placing personal information on the web

A Working comfortably and safely

Learn the skill

When you sit down to work at a computer, make sure you arrange the equipment to suit yourself. If you do not, your use of the computer could lead to discomfort and health problems.

The most common problems are RSI (repetitive strain injury), eye fatigue and back ache or neck ache.

Here are five important things to get right:

- Adjust the position of your chair so you are comfortable and all your joints are naturally in line
- Check the position of the keyboard and mouse, and try to have wrist rests to support the hands and wrists
- Place the monitor at a height and distance that gives you a good viewing angle
- Make sure that you place the monitor where the lighting is not too bright and where it will avoid glare and reflections on the screen
- Take regular short breaks if you are working for long periods of time on a computer

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Develop the skill

A1 Open the questionnaire below. Answer the questions. What action will you take to get rid of any bad habits you have? After a week, check to see if you are still working safely.

A2 Find out the best and safest ways of working with computer monitors, keyboards and mice. There is a lot of information on the internet (the correct term is 'computer ergonomics'). Here are some good websites:
www.osha.gov/SLTC/etools/computerworkstations/index.html
www.cdc.gov/od/ohs/Ergonomics/compergo.htm

A3 What is RSI? Can it be a serious condition?
What is MSD? Can it be a serious condition?
What are the warning signs that you might be developing one of these conditions? What should you do if you develop symptoms?

A4 How do wrist rests help to prevent problems when you are using a keyboard or mouse for long periods?

A5 What causes 'glare' on a computer screen, and how can it be prevented?

A6 Why is it important to use a desk and chair specially designed for working with a computer? What adjustments should be available on a well-designed chair?

A7 Why is it important to take regular breaks when working for a long time on a computer?

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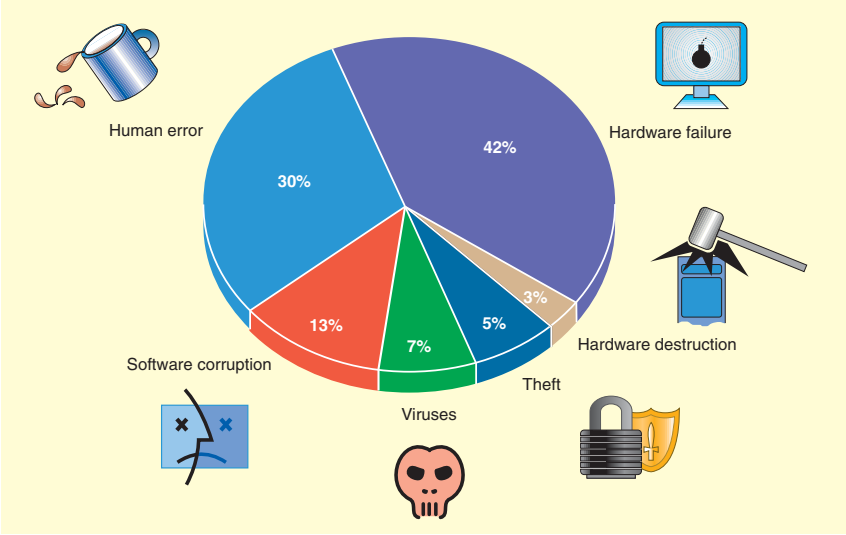
B Keeping information secure

Learn the skill

If you have lost important ICT work and had to do it all again, you'll know how annoying this can be. And, if it has not happened to you yet, don't assume it won't! This pie chart shows the main reasons people lose work.



Despite your best efforts, things can still go wrong on a computer. Information is stored in files on computers, but it is easy to damage or lose files. To protect your work, you need to make copies, called 'backups'.

Backup

Backing up means making a copy of a file, or a group of files, on a portable disk or storage device and then storing it securely away from the computer. You often do this with a special backup program. These programs usually automatically compress the copies, to save space. Backups can also be made to another computer on a network, or even to a server on the internet. The key thing is that you keep the backup away from the site where the original file exists. This provides protection against loss by fire or theft.

You need to back your work up regularly to make sure you always protect the latest information.

Here are some tips to help you avoid losing your work.

Whenever you start a new document, save it **immediately** with the correct file name and in the correct location.

Keep a record of important filenames and locations.

Never overwrite your only backup with the next version. If the system fails in the middle of the backup procedure, you will lose everything!

Save your work at regular intervals – or setup your PC so that it does this automatically.

Stop and read the dialogue boxes that appear.

Make backup copies of all work you want to keep, and make a copy somewhere else.

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Passwords

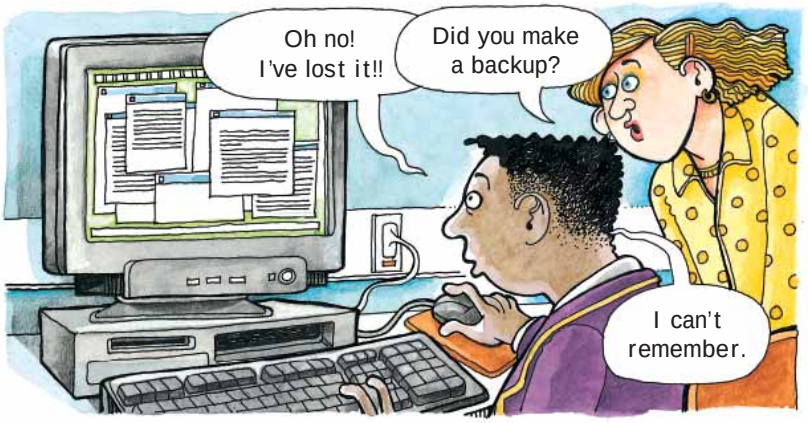
Passwords stop an unauthorised person looking at information in a file. Once you have set a password, you must enter it correctly to open the file.

To give you the best protection, you need to use a 'strong' password. A strong password uses a mixture of upper- and lower-case letters and numbers, and contains at least eight characters. The password f3joWLe8 would be quite difficult to guess or discover by trial and error.

Strong passwords may not be easy to remember. One way is to start with a sentence that means something to you, e.g. "My brother Alan is 3 years old on 4 July". Then take the first letter of each word, and the numbers, to make your password. So this would be MbAi3yoo4J.

Develop the skill

B1 Using software such as Windows Explorer, make sure you can copy a file or folder using drag-and-drop and copy-and-paste.



B2 What password do you get from each of the following sentences by taking the first character of each word or number?

- **a** Our holiday to America starts on 11 June 2008.
- **b** John eats Fish & Chips 2 times a week.

B3 Find an application that asks for a password.

- **a** Create a new file and set a password to open the file. Make sure you can remember the password and then save and close the file.
- **b** Now open the file again. What happens if the password you enter is not exactly the same (e.g. doesn't have the right mix of upper- and lower-case letters) as the one that was set for the file?

Hint In Microsoft Word the file password option will be found on the Security tab of the Tool/Options... dialog.

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C The danger of computer viruses

Learn the skill

Viruses

Computer viruses are programs that copy themselves. They can spread from one machine to another, by portable disks and memory sticks, or through the internet, often in email attachments. They are usually harmful: they can delete or corrupt files, and even destroy all the data on a hard disk.

Spyware

Spyware is a type of 'malware' (short for **mal**icious soft**ware**). Spyware programs are put on a user's machine without the user knowing about them; they're designed to make a profit for their creator. Spyware programs may show pop-up advertisements while the user browses the internet, change the user's home page in the browser, or log a user's keyboard activity to capture password or credit card numbers. Captured information is sent automatically to the spyware creator. Infected computers may also be used to send out email 'spam'.

What can I do to protect myself?

Anti-virus and anti-spyware programs can protect you against viruses and spyware. They can run automatically in the background and detect when an infection occurs. Use these programs regularly to scan the computer for infections.

There are a number of websites with useful information on computer infections. Try these two: www.malwarehelp.org
www.microsoft.com/technet/security/alerts/info/malware.mspx

And remember …

Avoid sharing portable devices such as memory sticks.

Use anti-virus software. Make use of automatic updates.

Don't open attachments from unknown sources. Delete them and empty the recycle bin.

Don't download files from unknown sources. Viruses are often sent out as attachments.

Develop the skill

C1 Find out about the following types of malware. What is special about each one?

worm trojan horse macro virus

C2 What is an anti-virus program? What does it do when it scans a hard disk?

C3 What is an anti-spyware program? What does it do when it scans a hard disk?

C4 Why is it important to keep anti-virus and anti-spyware programs up to date?

C5 What is a 'botnet'? Is it a good idea for your computer to be on one?

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D Staying safe and respecting others

The internet is great for providing information, but you must use it with care. More and more companies are trying to get information **from you**.

Learn the skill

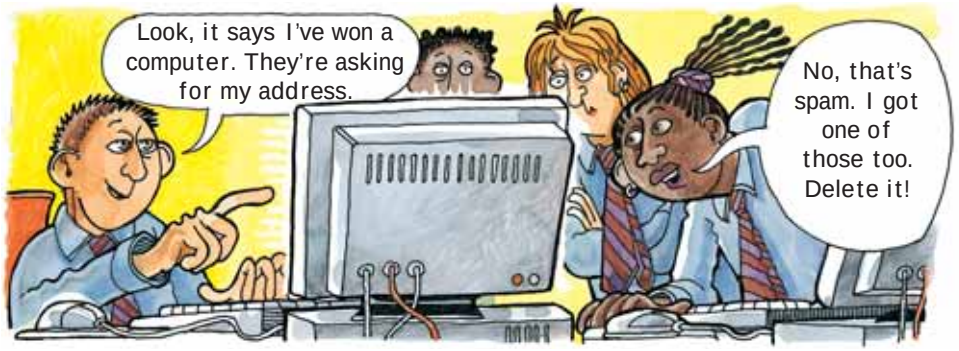
What is spam?

Most of us get 'junk mail' in the post: for example, a mail order company sends you a catalogue you haven't asked for. Spam is ICT junk mail. It consists of emails, text advertisements or scams sent to you that you have not asked for. You have to be very careful how you deal with it.

You may just get emails or texts offering to sell you something you don't want. This can be annoying, but what are far more dangerous are scams where the sender is trying to get personal information, such as the number of your bank account, your pin number or password. This type of activity is called 'phishing' and the information gained can be used in identity fraud.

What should you do about it?

- If an email makes you an offer which looks too good to be true – for example, saying you've won a lottery you haven't entered – don't respond! Delete the email.



- Beware of text messages containing a simple request to call a number. If you return the call, you may be ringing a premium-rate line which could cost you a lot of money.

Social networks

Social networking sites are very popular now. You may be a member of sites such as Facebook and MySpace. It is worth taking a few simple precautions to make sure you stay safe while using these sites. Remember that anyone who has access to the internet can read the information on your profile so be careful what you add. Don't give them your mobile and home phone numbers, your address and your full date of birth – you can just give your age instead.

If you would not give the information to a stranger, **do not** put it on the web!

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Emailing tips

Emailing is a quick and useful way to communicate, providing you are sensible.

- If your email is to someone you don't know personally, or is a business email, it is important to use proper spelling, grammar and punctuation. Use the spell-checking option if your program has one.
- You can use informal language and punctuation if you email a friend.
- Try not to send emails in capital letters because IT SEEMS AS IF YOU ARE SHOUTING, which may upset some people.
- Do not copy a message or attachment sent by another user without their permission. You might be breaking copyright laws.
- Be careful what you say in an email: it may end up somewhere you didn't mean it to go.
- Finally, remember that most of the images on the internet are copyright. You must check what the conditions are for using them if you want to email or use them in some way.

Develop the skill

D1 What information should you be careful about putting on the internet?

D2 Some malware infections can have serious consequences. Find out what each of the following are and how to protect against them:

malicious diallers phishing attacks

D3 Email messages sometimes contain terrible warnings about the risk from a named virus and ask the recipient to forward the message. These messages are often hoaxes. What is the best way to deal with such a message?

D4 There are several sites that give you free access to images: for example, www.morguefile.com allows you to use images, provided you acknowledge the photographer. Look at other sites and see if copyright permission is needed.

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E Troubleshooting

If you can recognise some common ICT problems and know how to deal with them, you won't have to wait for ICT support – and it will save you time and money.

Learn the skill

If you do not feel confident about dealing with a problem, you should ask a more experienced person to help – and learn from what they do. But here are a few problems that it's easy to sort out.

Paper jamming in the printer

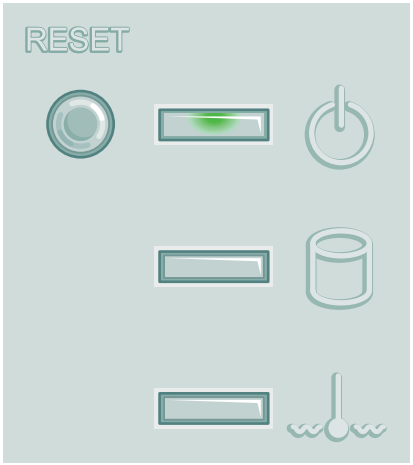
A paper jam is when the printer stops printing because one or more sheets of paper get stuck part way through the paper feed path. The printer may display a message. A jam will happen with even the most reliable of printers and is often a problem with the paper rather than the printer. Switch off the printer before clearing the jam.

Application not responding

Sometimes, for no apparent reason, a user application will stop responding to the mouse or keyboard. This is known as a 'software freeze' or 'lock-up'. When this happens, clicking the mouse on a menu or other control has no effect and text cannot be entered using the keyboard. The title bar of the window may show the words 'not responding'.

Once an application has frozen, it is not possible to save work; work done between the last time the file was saved and the time the application froze will often be lost (although some applications may auto-save work). This is a very good reason for saving work frequently.

The machine operating system can also freeze, so that the mouse or keyboard doesn't respond at all. If this happens, you have to restart the machine by pressing the Reset button.



Make sure the machine really has frozen and is not just taking a long time to complete an operation, because all unsaved work will be lost when the machine is reset.

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Suspect virus or spyware infection

A machine infected with a virus or spyware program will often behave in unexpected ways. To protect your computer, you could use anti-virus and anti-spyware programs. These run in the background all the time and detect when a virus or a spyware program infects a machine. They can also be used to scan the machine to find and remove viruses and spyware.

So remember …

Removing viruses and spyware can be difficult. Use good anti-spyware and anti-virus programs to protect your machine.

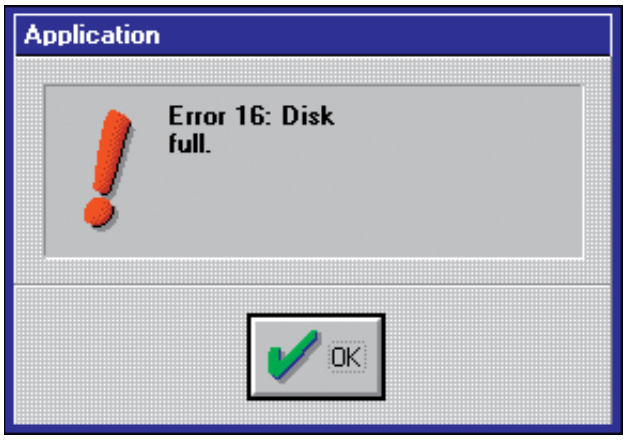
Be very careful about 'free' music and video downloads.

Be careful with your surfing habits and don't download anything you are unsure about.

Don't open email that you are not expecting, or from anyone you don't know, and be very careful not to open any attachments.

Storage full

Modern hard disks and memory sticks provide large amounts of storage space – but over time they can become full. When this happens, if you try to save a file, you will see an error dialog, similar to this.



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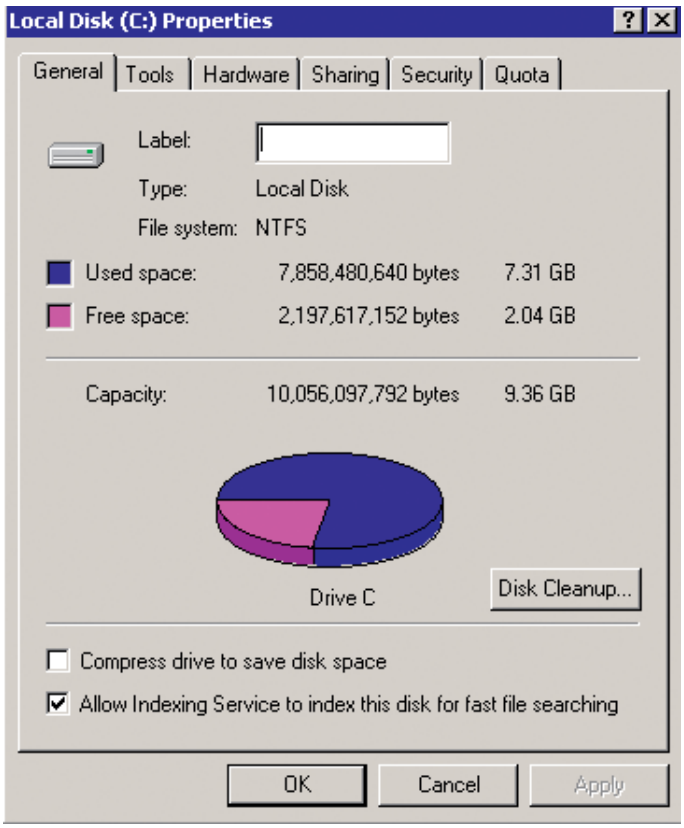
You can find out how much space is left on a drive by looking at its properties. In Windows, click the Start button, and then click on 'My Computer'. This will list all the drives on your machine. Right-click on one of the drives and then click on Properties in the drop-down menu.



A dialog similar to this will be shown. In this case, drive C: is shown as more than three-quarters full.

Notice that this dialog also tells you the total storage space available on this drive.

Develop the skill

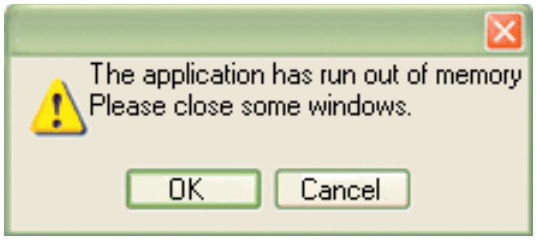
E1 Get permission to explore a printer. Find out how to load paper and how to access the paper path to remove jammed paper safely.

E2 Search the internet to find out how to clean the keyboard of a desktop machine if liquid (coffee or tea perhaps) is spilt on it.

E3 If possible, use the Help file on an anti-virus or anti-spyware program to find out how to run a scan.

Use the program to scan a folder on the machine's hard disk drive.

E4 How would you respond if this message appeared when you are working with an application?



E5 Find out how much space is available on one of the drives on a machine that you are able to use, or how much space is left on a memory stick.

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