ICDL
The Digital Skills Standard

ICDL Workforce

COMPUTER & ONLINE ESSENTIALS

Syllabus 1.0

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ICDL Computer & Online Essentials

The ICDL Computer & Online Essentials module introduces you to the world of computers, ICT, software and online tools, helping you use computers and digital devices effectively for work. Almost every industry in the world utilises computers and digital devices in some way, so having the core skills to complete common technology tasks is essential for workers. And with a growing reliance on the Internet for work and communication, having the ability to use online tools effectively is another crucial component of digital literacy. ICDL Computer & Online Essentials will guide you through the key skills you need in a work environment to effectively use computers and devices and engage securely in online activities.

On completion of this module, you will be able to:

- Understand key concepts and carry out key activities relating to hardware and software.
- Manage files and folders, store data, and manage applications.
- Understand network concepts and connect to a network.
- Find and manage online information effectively and manage browser settings.
- Understand considerations relating to the effective use of common communication tools.
- Send, receive, and manage emails, and use calendars.
- Understand potential threats and ways to protect computers, devices, and data.
- Recognise considerations relating to safety, well-being, accessibility, and the environment.

What are the benefits of this module?

This module sets out essential concepts and skills relating to the use of computers and devices, file and application management, networks, online information, online communication, and safety.

It will give you the stepping stone to kick start your computer experience and provide a base to build on in the future. Once you have developed the skills and knowledge set out in this book, you will be in a position to become certified in an international standard in this area - ICDL Computer & Online Essentials.

For details of the specific areas of the ICDL Computer & Online Essentials syllabus covered in each section of this book, refer to the ICDL Computer & Online Essentials syllabus map at the end of the book.

LESSON 1 –
COMPUTERS AND DEVICES

In this section, you will learn how to:

- Define the term hardware
- Identify the main types of computers and devices
- Identify the main types of integrated and external equipment
- Identify common input and output ports

1.1 Types of Computers and Devices

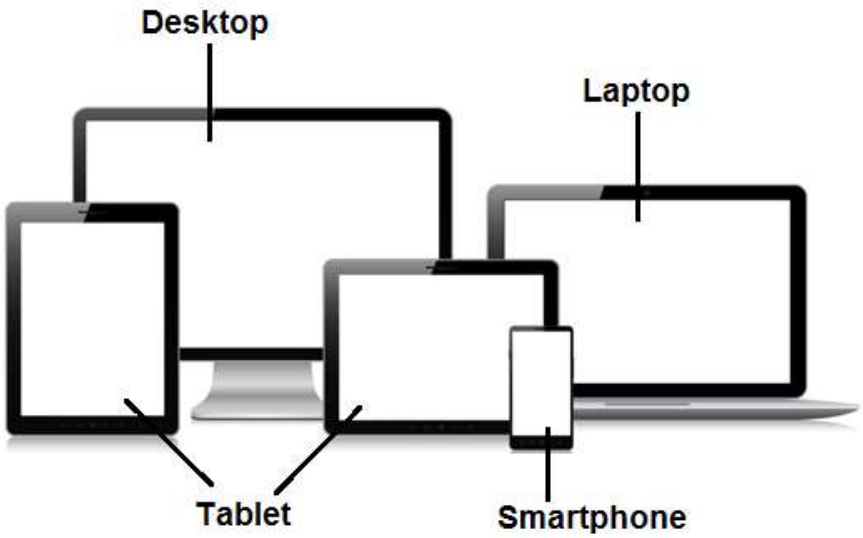
Concepts

Hardware is the physical parts or components of a computer or device, such as the mouse, monitor, keyboard, system unit and speakers. They are physical, tangible objects.

Hardware

Two popular types of personal computing devices are desktop computers and laptop computers. Smaller, cheaper versions of laptops known as netbooks are also quite common, but these simply allow users to connect to the Internet and may suffer from poor performance.

Also popular are devices such as tablets, which are smaller again and usually feature a touch screen. Of course, some of the most popular devices in the world today are mobile phones and smartphones. Smartphones integrate computing functionality with mobile phone technology.



Desktops

A desktop computer is a computer that is designed to stay in a single location. It can also be referred to as a personal computer (PC). In the early age of computers, the term "personal computer" was used to differentiate between computers for personal use and larger computers, such as mainframes and supercomputers.

A PC may be a desktop computer or a tower (also known as a system unit). Unlike laptops and other portable devices, PCs such as desktop computers are not powered from an internal battery and therefore must remain connected to a power outlet.

Desktop

Laptops

Laptop computers, as the name implies, are small portable computers that can run on a battery as well as mains power. They are usually designed for mobile, flexible use. They use special screens, rather than the traditional VDUs (Visual Display Units), which allows for longer battery life as well as portability.

While they tend to be more expensive than an equivalent desktop computer, they can match the power of a desktop computer.

Laptop

Tablets

A tablet, or tablet PC, is a hand-held mobile device that combines computing and Internet access. Tablets use a touch screen as the primary input device. Most tablets are smaller and weigh less than the average laptop.

Early tablet touch screens were designed to work with light pens, but most modern tablets support human touch input. Many tablets now support multi-touch input, which allows you to perform gestures using more than one finger, such as pinching an image to zoom in or spreading your fingers apart to zoom out. Tablets allow you to enter text using a pop-up keyboard that appears on the touch screen.

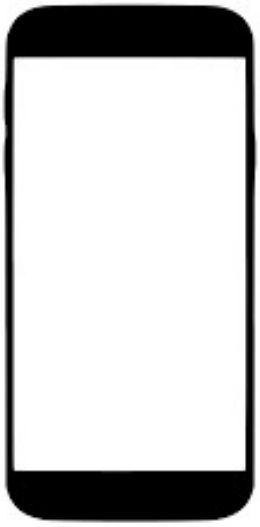
Tablet

Smartphones

A smartphone is a small hand-held device with a touchscreen interface that combines computing and Internet access along with the functionality of a mobile phone. Capabilities and standards vary from one manufacturer to another. Most smartphones have the following options:

- An operating system to connect to other devices and to install applications
- Apps to send and receive emails and browse the Web
- Popular social networking apps
- Personal and contact management organiser
- Global Positioning System (GPS) features
- Reader apps to view documents in Microsoft Word or Adobe PDF format

Other features can include a built-in camera and the ability to play music, display photos and video clips. Of course, you can also make a phone call using a smartphone.



Smartphone

1.2 INTEGRATED AND EXTERNAL EQUIPMENT

Concepts

There are many types of hardware, sometimes called equipment, used with computers. Some equipment can be installed in a computer. This is often referred to as built-in or integrated. And some equipment can be connected to the outside of a computer. This is often referred to as external. Many tablets, laptops, and netbooks have integrated equipment.

Screens

A screen is a device used to visually display output such as text and graphics. There are several different types and they can be external or integrated into computing devices.

A **Visual Display Unit** (VDU) or monitor are terms commonly used for the screen of a computer. They show the main output of the computer.

A **projection screen** is used for displaying presentations running on a computer to a group of people using a projection device connected to the computer.

A **touch screen** is an integrated VDU that also serves as an input device. These are commonly used on mobile devices, such as tablets and smart phones. Touch screens enable interaction with what is displayed on screen by touching the screen with a stylus or one or more fingers.

Keyboards

A keyboard is used to enter information, for example characters or commands, into the computer. A laptop computer comes with an integrated (built-in) keyboard but it is an external device when used with a desktop computer.

Keyboard

Mouse

When using an operating system such as Microsoft Windows, you use the mouse to control a pointer on the screen. The pointer can be used to select items, issue commands, click and drag and drop items from one place to another.

Mouse

Trackpad

A trackpad, or touchpad, is an integrated device that is used like a mouse. It translates the motion and position of a user's finger to a related position on screen. They are often used on laptop computers, in place of a mouse.

Trackpad

Cameras

Cameras are used to capture digital images or videos. They can be integrated into the computer or device or connected externally. Most modern computer screens, laptops, tablets and smartphones come with an integrated camera. The image or video captured can be saved, viewed and transmitted in real time to other computers and devices using the Internet. Sometimes these types of cameras are called web cameras (web cams).

Webcam

A digital camera may also take the form of a traditional camera but instead of storing images on rolls of film which require developing, images or video are stored digitally in memory housed within the camera, or on memory cards. These pictures or video can easily be transferred to your computer and then manipulated using a graphics or video editing programs, which you may have on your computer.

Speakers

Speakers are used to produce sound waves audible to the human ear. Most modern computers come with built-in speakers or you can connect external speakers.

Speaker

Microphone

Microphones are used to digitally capture sound. Most modern computers come with a built-in microphone or you can connect an external microphone.

Microphone

Docking Station

Docking Stations are external devices used to connect laptops to other devices such as keyboards, monitors, speakers or printers. They expand the number of devices that can be connected at one time.

Docking station

Headset

Headsets are external devices that combine headphones and a microphone to provide the functionality of a hands-free telephone. They can, for example, be used for video calling or interactive gaming.

Headset

Storage

A computer storage device is a type of hardware that stores digital data. Storage devices can be internal or external.

One common type of storage device is a hard drive, which nearly all computers have. The computer's main hard drive stores the operating system, applications, and files and folders associated with users of the computer.

Internal Hard drive

Several other types of storage device are common as well. Flash memory devices, such as USB drives, are popular ways to store data in a small, mobile format.

USB Drive

Other types of memory, such as memory cards, are frequently used to store images taken by digital cameras.

Memory cards

External hard drives that connect via cable are also common. These types of drives are frequently used for backing up internal hard drives, for storing videos and photographs, or for simply adding extra storage.

Online/Cloud file storage is a type of file storage service available over the Internet.

Printers

A printer is an external device that prints information on paper or other media. Printers may be connected to computing devices, using a cable or wirelessly via wi-fi. There are a vast number of different printers available. The most common types are inkjet and laser printers, both of which can produce coloured output.

The **laser printer** is mostly used in offices where large volumes of printing is necessary. It is more economical and uses the same technology as a photocopier; these are more common in black and white, but colour laser printers are also available.

Laser printer

The **inkjet printer** is the most commonly used printer in the home. It prints by spraying ink on the page using cartridges filled with ink. While inkjet printers are commonly cheaper to buy than laser printers, they can be more expensive to run.

Inkjet printer

Scanners

A scanner is an external device, used to scan printed material and convert it into a digital format. Pictures can be scanned and then edited using a graphics application. Printed text can be scanned and converted to a picture of the text or actual text, which can be edited using a word processing application.

Scanner

1.3 Common Input and Output Ports

Concepts

Devices are often physically connected to computing devices, such as a laptop, through an input/output (I/O) port.

Universal Serial Bus (USB)

The best-known input/output (I/O) port is the Universal Serial Bus (USB). USB ports are standard cable connection interfaces used by personal computers and other devices.

USB symbol

You will see one or more USB ports on your computer system unit or laptop, allowing you to plug in devices designed for the USB. USB ports are typically used to physically connect storage devices. They are also used to connect other devices including printers, scanners, digital cameras, and mobile phones.

USB port

High-Definition Multimedia Interface (HDMI)

HDMI is another type of input/output port. HDMI is typically used to connect to media devices to transfer video and audio data, for example, to connect a computer to a monitor. HDMI is a digital replacement for existing analogue video standards.

HDMI

Video Graphics Array (VGA)

VGA ports are used to physically connect a monitor, projector or TV to transfer video data. VGA ports are most typically used to connect monitors to the system unit. The main disadvantage of VGA ports is that they only carry video output. If you also want sound output, you need to connect another device such as speakers. VGA is an analogue connection and is increasingly being replaced by the digital HDMI connection.

VGA