

Computer Jargon

Some Terms You Should Understand

As part of your course you are likely to use a computer. Even though facilities are provided within our department, some students already have a computer or choose to purchase one for their course. The following information is intended to define some of the terminology you may encounter. It explains the purpose of the basic components of a computer and provides you with knowledge to help you choose computer equipment to purchase.

Hardware

CPU	This is the Central Processing Unit of your computer. Located on the motherboard, the CPU acts as the brain of the computer, executing programs and handling the data between other components. A CPU's speed is often measured in gigahertz (GHz).
Hard Disk drive	The hard disk is where your computer stores its operating system, software applications and your data files. Hard drive capacity is usually measured in gigabytes (GBs) or terabytes (TBs) with drives usually averaging around 500GB – 1TB. Note that 1TB is equal to 1024GBs, however due to system formatting the usable hard drive capacity may not be exactly equal to that advertised.
Memory	Often referred to as RAM (Random Access Memory). The amount of RAM on your system will affect how many applications you can have running simultaneously and often how well they perform. Most entry-level machines now have a minimum of 4 GBs of RAM; it is important that there are extra slots available in the computer to add more RAM if you require it.
Sound card	Sound cards enable the computer to output sound through speakers connected to the board, to record sound input from a microphone connected to the computer, and manipulate sound stored on a disk. Most computers will use onboard sound adaptors as they are considered to be of high enough quality for the majority of computer users.

Graphics/Video card

A board that plugs into the computer allowing it to render images and display them onto the monitor. Modern video cards contain memory, so that the computers RAM is not needed for storing displays.

Graphics cards are not necessary components for a machine to run; so many low end computers may forego them or rely on lower powered onboard graphics adaptors in order to save costs. **Please note that CAD and graphic design software may run slowly or in some cases not at all without a dedicated graphics card.**

**CD ROM /
DVD ROM drive**

All desktop systems have either a CD ROM drive or DVD ROM Drive. Although digital distribution is common for smaller programs. Larger software applications are usually provided on CD or DVD. Speeds can vary from manufacturer (the higher the number the quicker information is read from the disc). CDRW and DVDRW are required for the user to burn to CD or DVD respectively.

Floppy and Zip disk drive

This drive is where you insert floppy disks for reading and saving files. A standard 3.5" floppy disk holds 1.44MB while the much larger Zip disks can house capacities of 100MB and up to nearly 1GB. While no longer widely used, Floppy and Zip drives can still be found on many machines to support older software.

Monitor

Also called a display, the monitor is the visual output device of a computer. Desktop monitors are usually liquid crystal displays (LCD) though Light emitting diode (LED) models are available, sporting greater contrasts, longer lifespan, a thinner frame and usually, a higher price tag. Most monitors connect to computers via the older blue analogue VGA port or white DVI port, which is a digital interface and can support higher resolutions.

Modem

If you want to access the Internet from your home, you'll need a modem and an account with an Internet Service Provider. Modems have different speeds, which are expressed in Kbps (Kilobits per second) or Mbps (Megabits per second)

Switch

A switch is piece of networking equipment that enables multiple machines to connect to and communicate with each other both as part of a network and individually, this sets them apart from network hubs, which can only broadcast messages to all devices on the network.

Router

A router is another type of network device that forwards data between different networks. Routers act as the gateways out of and into networks, they can act as firewalls to block specific types of network traffic and perform quality of service (QoS) to allow you to prioritise other traffic or applications. Modern routers can also additionally be used to connect to your service provider in place of a separate modem.

Ports

These are sockets that you can use to plug in printers, scanners, and cameras into your computer. USB 3.0 ports are the latest standard, allowing you to connect your equipment to your computer without needing to install expansion cards or reconfigure the system. Other ports include serial, eSATA, SD, FireWire (Also known as IEEE 1394) and thunderbolt which all allow data transfer between their compatible devices. Note that many ports and their connections can come in varying sizes, while most usually offer a 'micro' version, USB can come in 6 different varieties.

Software

Operating System (OS)

Operating systems acts as a software platform on top of which other programs, such as word processing and spreadsheet applications can run. They also manage the systems hardware resources, for example; determining how much RAM certain programs can use, or telling the CPU which hard disk you want certain files to be copied to. Your choice of operating system therefore will have a large impact in what tasks your computer can perform and how well it performs them.

Microsoft's Windows holds the majority of the OS market and as such will usually have the most compatibility and support with software applications, although software from many corporations will generally include support for Mac and Linux systems, you may find certain software can only be run on a Windows computer.

Peripherals

Printer

A printer allows the outputs on the monitor to be printed out onto paper. Printers fall into 2 different types: Inkjet or laser category. Inkjet printers would spray tiny droplets of ink at a sheet of paper to produce high quality text and graphics. Laser printers use the same technology as photocopier machines. Laser printers are typically of higher quality than their inkjet equivalents, and also tend to run a higher upfront price; however their running cost (that is the cost per page of printout) is usually lower than that of inkjet printers.

Scanner

A scanner is a device that can read text or illustrations printed on paper and translate the information into a form the computer can use. The resulting image, called a bit map, can then be stored in a file, displayed on a screen, and manipulated by applications.

Speakers

Speakers allow you to output sound from your computer. You can purchase just stereo speakers or those with a sub-woofer which would enhance the bass tones of your sounds more.

USB Flash drives

Very popular and convenient, USB sticks are portable storage devices that fulfil the same purpose as hard drives, only scaled down. They come in a variety of sizes ranging anywhere from 1GB to 128+GB. USB sticks are plug_and_play, and can be used almost immediately after being plugged into the computer's USB port.

CD/DVD- R vs. CD/DVD R/W

There are two types of CD/DVD media that you can buy to copy or burn your files to. The first one is the CD-R / DVD-R, which means that once you have written media onto the CD/DVD you cannot erase it and the CD/DVD is finalised for reading purposes only. With re-writeable CD / DVD or CD/DVD-RW, you can erase the contents of the CD/DVD and re-write different media onto the CD/DVD many times over.