Introduction to Computers

A Workshop for San Diego State University Faculty and Staff

Where to Find Help When You Need It

Help from your Division/College's Computer Consultant
Some divisions and colleges have computer consultants assigned to them.
You can contact these consultants when you need help. To determine if
you have a consultant assigned to your division or college, look to:
http://rohan.sdsu.edu/~facstaff

Help from the BATS Web Page
BATS (Baseline Access, Training and Support) is a California State
University initiative to provide all students, faculty, and staff with
"baseline" access to information resources via networks, training in the
uses of baseline hardware and software systems, and ongoing professional
and technical support for utilization of computer resources at San Diego
State University. You can access the BATS Web Page by pointing your
browser to: **http://rohan.sdsu.edu/~bats/**

Help in the San Diego State University, Faculty Room
The Faculty Room is staffed Monday through Friday with computing
consultants who will try to answer your questions.

Location:	Adams Humanities, 1109
Phone Number:	x45727
Semester Hours:	7:30am – 6:00pm Monday -Thursday
	7:30am – 4:30pm Friday
Semester Intersession:	7:30am – 4:30pm Monday – Friday

Help from the Faculty Computing Help Line

Phone Number: x41348	**E-mail:** helpline@mail.sdsu.edu
Semester Hours:	7:30am – 6:00pm Monday – Thursday
	7:30am – 4:30pm Friday
Semester Intersession:	7:30am – 4:30pm Monday – Friday

Help from the Staff Computing Help Line

Phone Number: x40824	**E-mail:** staffhelp@sdsu.edu
Semester Hours:	7:30am – 6:00pm Monday – Thursday
	7:30am – 4:30pm Friday
Semester Intersession:	7:30am – 4:30pm Monday – Friday

Introduction to Computers for Faculty and Staff

This workshop is designed for the beginner in both the Windows and Mac environment. After this workshop, you will have a better overall understanding of basic computer terminology and how using the computer can make your work easier. This workshop will be taught at a slow, friendly pace.

This handout is best used as a reference tool after the workshop.

The following topics will be covered…

Different Parts of a Computer

Monitor: Usually described in inches, "I have a 17" monitor."

Central Processing Unit: CPU

RAM: Random Access Memory

Processor: Defined in mhz: ie, "I have a 233mhz Processor" The more mhz, the faster.

Game "joystick"

Speakers for sound

Mouse

Floppy Drive

CD ROM

Hard Drive

Keyboard

What is a computer?

A computer is an electronic device, operating under the control of instructions stored in its own memory. These instructions tell the machine what to do. The computer is capable of accepting data (input), processing data arithmetically and logically, producing output from the processing, and storing the results for future use. Most computers that sit on a desktop are called "PCs," or personal computers.[*]

Difference between software and hardware

Software is the stuff that makes your computer do things for you. The computer without software would be like a home entertainment system with no tapes, CD's, or movies - you have the machine, but there's nothing to play on it.

Software is continually developed. Each time the software maker (Microsoft, Adobe, Corel, etc) develops a new version of their software they assign it a version number. Before Microsoft Word 7, there was Microsoft Word 6.0.1, and before that Word 6.0. The larger the developments made to the software, the larger the version number changes. Usually a large change will result in a whole number upgrade; a small change may result in a tenth of a decimal place.

Hardware are those components or physical pieces that make up the computer. Hardware are those things you can touch. The previous page shows different pieces of the computer's hardware: monitor, speakers, mouse, CDROM, hard drive, keyboard, CPU, RAM, Processor, etc. Each piece plays a role in the operation of a computer.

Using a keyboard

The keyboard is one of the ways you can tell the computer what to do. It consists of the standard typewriter keys as well as a numeric keypad. You can use the keyboard to give the computer commands, as well as use it to name folders and files and type text in word processing documents.

Using the Mouse

The mouse is another way you can tell the computer what to do. The mouse is used to move a small arrow pointer on the screen. By pointing and clicking you can carry out commands. The computer may ask you to verify that you are sure you want to rename a file, by clicking on the 'Ok' button.

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[*] To clarify a common point of confusion: all desktop computers can be referred to as "PC"s, or personal computers. Over the years, however, the word PC has been used by some people to refer to Windows machines only. This has caught on slowly, but is not widespread. Thus, it is correct when you call a Mac a PC, but you may come across a few folks who think you are talking about a Windows machine.

The tip of the mouse pointer must be positioned on the item you want to use. To select an item, position the mouse pointer on the item and click once. Double-clicking on an icon invokes a command or launches an application. To drag an item (icon or other object) from one location to another, position the mouse pointer on the item, click and hold the mouse button down, and move the item to the new location.

On Windows machines, there is a left and right mouse button. Most of the time you use the left mouse button (if you are right-handed). The right mouse button when clicked will display a contextual menu. On some newer Macs, the same feature can be used with their single mouse button by holding down the Control key as you click an item on the screen.

Using a "desktop"

The computer's interface uses a "desktop" metaphor. The desktop is the colored background you see on the screen when you start your computer. It is the place where you manipulate the work you are doing by handling icons, or little pictures that represent your files, folders, and disks.

Working with Windows

Working with "windows" gives you the ability to "look at" something. It allows you to look *into* a document, or a folder, or a disk. To move a window on the screen, simply drag it around by its title bar.

What is an operating system?

When you use your computer you sit facing some of your computer hardware. Basic hardware consists of the keyboard and mouse, the screen you use to view your work, and the Central Processing Unit (CPU), which is the box that houses all the inner workings of the computer.
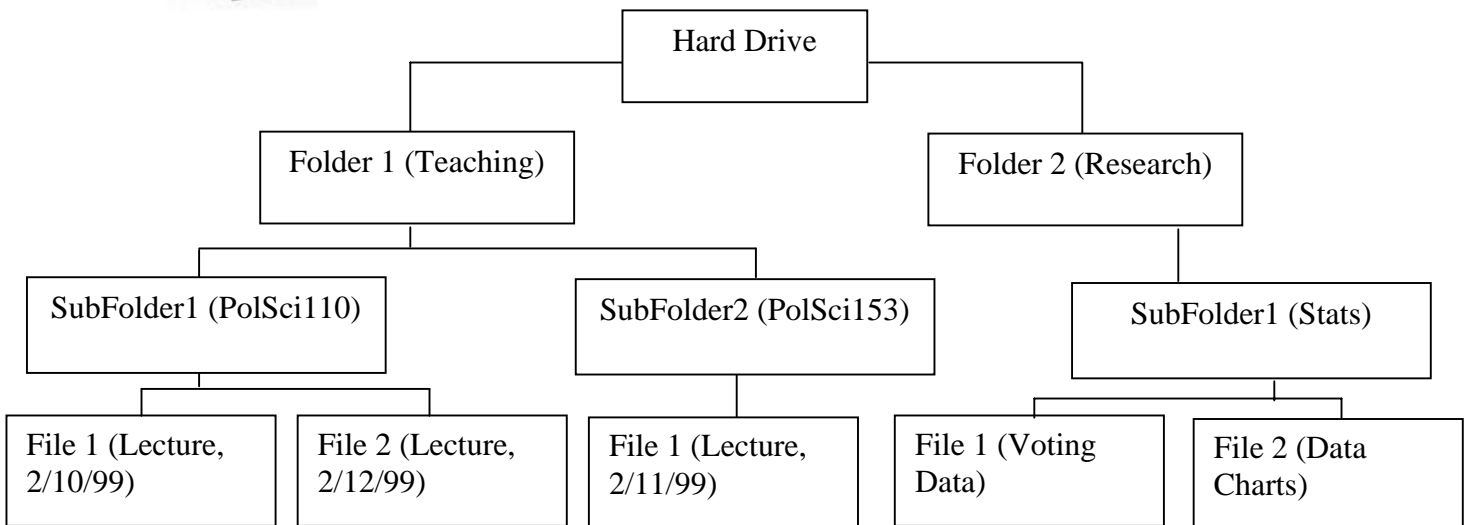
You use computer applications (or software programs) when you create your spreadsheets, word processing documents and graphics. Some popular applications are Microsoft Excel, Word and PowerPoint.

You cannot directly use computer applications with computer hardware. Instead, you need a translation system between the hardware and the applications. This translation system is called the operating system (OS). The Windows or Mac OS works "behind-the-scenes" to run your computer. It tells the computer what to do when it starts up and keeps track of your documents, files, and other software. It also provides the standard user interface component (like menus and the desktop) that you see when you look at your computer screen. Both the Windows and the Mac OS operating systems use a graphical interface (pictures or icons instead of text) that allow you to immerse yourself in multitasking (accessing multiple applications and files simultaneously). You work with "windows" in this interface. These windows are a series of boxes, which can be opened and closed as needed.

Using folders & files

Your computer's hard drive is just like using a large filing cabinet. The draws are "folders", and the folders inside the drawers are "sub-folders". The information inside of the folders, or sub-folders is stored in "files". The files can be many types: word-processing, spreadsheet, database, graphic, etc. Typically, on your hard drive you may thousands of folders, sub-folders and files. An example of the hierarchical structure of a hard drive is shown below.

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                          ┌──────────────┐
                          │  Hard Drive  │
                          └──────────────┘
               ┌────────────────┴────────────────┐
     ┌───────────────────┐              ┌───────────────────┐
     │ Folder 1 (Teaching)│              │ Folder 2 (Research)│
     └───────────────────┘              └───────────────────┘
        ┌──────────┴──────────┐                    │
┌──────────────────┐ ┌──────────────────┐ ┌──────────────────┐
│SubFolder1 (PolSci110)│ │SubFolder2 (PolSci153)│ │ SubFolder1 (Stats)│
└──────────────────┘ └──────────────────┘ └──────────────────┘
   ┌────┴────┐             │               ┌────────┴────────┐
┌────────────┐ ┌────────────┐ ┌────────────┐ ┌────────────┐ ┌────────────┐
│File 1      │ │File 2      │ │File 1      │ │File 1      │ │File 2      │
│(Lecture,   │ │(Lecture,   │ │(Lecture,   │ │(Voting     │ │(Data       │
│2/10/99)    │ │2/12/99)    │ │2/11/99)    │ │Data)       │ │Charts)     │
└────────────┘ └────────────┘ └────────────┘ └────────────┘ └────────────┘
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Understanding the difference between Windows & Macs

The personal computer industry has generally sorted itself out along the lines of two major operating systems: Mac and Windows. The Mac OS runs on CPUs made by Apple Computer. The Windows OS, made by Microsoft, runs on CPUs made by many different companies, but not Apple. Some of these companies are: IBM, Dell, Compaq, Gateway, Fujitsu, Sony, etc. When people talk about the differences between Windows and Macs, in general, they are expressing a personal preference about which operating system or hardware they believe to be superior.

Congratulations!

You have completed Introduction to Computers for Faculty and Staff at SDSU. Please feel free to contact your instructor if you have any questions on material covered during this workshop. Also, please feel free to take advantage of the help resources listed on page 2 of this handout.

Disk Size Conversion Chart

A Kilobyte or "byte" is equal to roughly 1000 ("K" stands for Kilo, which means one thousand). So, if a file is 64k this means the file is about 65,000 bytes. A floppy disk holds 1,400,000k.

1,000,000 bytes are equal to roughly 1 Megabyte, or "meg". So, if you have 32M of memory, you have 32,000,000 bytes of memory.

1,000,000 Megabytes is equal to roughly 1 Gigabyte, or "gig". So, if you have a 6G Hard drive, you have enough storage to fit 6,000,000,000k.

Glossary of Basic Terms[*]

Application
Another name for software, or program. Some common types of applications are word processors, spreadsheets, databases, etc.

Bug
A mistake, or unexpected occurrence in a piece of software or hardware.

Clipboard
The area of the Mac's memory that holds what you last "cut" or "copied". You can past the contents of your clipboard into documents.

Control Panel
An accessory that allows you to set things like how sounds, monitor backgrounds, and how fast the insertion point blinks.

CPU
The central processing unit is made up of circuitry and computer chips, which perform the computer's calculations. The CPU is often what people call the box in which the all of the computer's circuitry is housed.

Desktop
The computer's interface uses a desktop metaphor. The desktop is the gray or colored background you see on the screen when you start you computer. It is the place where you do your work by handling icons, and working with pictures that represent your files, folders, and disks.

Email
Electronic Mail allows a computer user to send messages instantaneously to another user's electronic mailbox. To send an Email to someone, you must have their Email address - which may look something like: johnson@cwia.com - and you must be connected to a network.

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[*] Note that some of the terms for this section only are modified from: Aker, Sharon et al. The Macintosh Bible, Third Edition. Goldstein & Blair, Berkeley , California, 1991.

File Menu
In all applications, the File menu contains commands for opening, saving,
printing and closing documents, quitting the application, etc.

Floppy Disk
A magnetic storage medium about 3.25 in size, which can be recorded, erased,
and used over and over again. A Floppy Disk holds can hold 1.4Megabytes of
information.

Hardware
The physical components of a computer system. Those things which you can
touch. See page 4.

HardDrive
A rigid, usually nonremovable disk, and/or the disk drive that houses it. Hard
disks store much more data and access it much more quickly than floppy disks.

Internet
Established in the 1960s by the US government, the Internet was developed so
that government agencies and universities could link research centers in response
the perceived notion that the Soviet Union was becoming more advanced in the
space race. The Internet was created as a "de-centralized" network, meaning that
there is no one place that makes up the Internet. This was done to make sure the
Internet survived a nuclear war. Today, the Internet is a vast collection of e-mail,
Usenet groups, FTP sites, and Web sites, with millions upon millions of users
from around the world.

Launching
Opening an application.

Memory
The retention of information electronically, on chips. See a difference with
Storage. There are two main types memory: RAM, which is used for the short-
term retention of information (until the power is turned off), and ROM, which is
used store programs that are seldom changed.

Menu Bar
The horizontal area across the top of the screen that contains the menu titles.

Megahertz (MHz)
One million cycles per second. A unit of measurement to compare clock speed of
computers. The higher the number, the faster the computer.

Modem
A device that adapts a computer to a voice communications (telephone) network.
The modem converts the digital pulses from a computer to audio tones, which
can be transmitted by a telephone system.

Networking
Two or more computers and associated devices (printers, etc) that are connected
by communications hardwire (phone wire, network cable, satellite, etc).

OS
The basic software that controls a computer's operation.

Pasting
Inserting something into a document from the Clipboard by choosing Paste from the Edit menu.

RAM
A portion of memory that is set aside to act as a temporary disk. This is different from storage - see storage.

Reboot
To "reboot" means to restart the computer.

Server
A computer that provides shared resources (files, applications, etc.) to network users.

Software
The instructions that tell a computer what to do. Also called programs or, applications.

Storage
The long-term retention of information magnetically (on disks or tapes) or optically (on CD ROMs). It persists after you turn your computer off. Compare this with memory.

System folder
A standard folder on Mac hard drives that contains the System file, the Finder and other system software.

Zip Disk
Just like a floppy disk, except slightly thicker and more durable. A Zip Disk can hold up to 100Megabytes of information. This is convenient for working with large files, especially graphics.