

Use of Computers in Instruction

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The development of the WEB and Electronic Classroom suggests that new teaching techniques be developed. These notes:

- **Outline teaching recommendations**
- **Discuss UNIX**
- **Discuss how to build a "basic" Web page**

Teaching Suggestions:

Electronic Classroom Provides a number of new Opportunities.

Powerpoint® "slide shows" are too rigid for general everyday class use.

Class web pages can provide hooks to relevant pages such as the Whitehouse, Federal Reserve, Department of Commerce. By providing "hooks" that students can click on, web page address problems can be avoided.

It is dangerous to attempt to type an address in class since a simple error can move you to an X rated page. This is especially true with the whitehouse page.

A class FTP location can provide Excel®, Word®, PDF, SAS and HTML files that can be loaded in class. Economics 322 under my page has Excel files that solve the problems in class. In class these are loaded and run. At home the students are able to modify them and save the modified files.

Software can be distributed over the Web. Under my page the free student version of B34S®, which contains over 50% of the capability of the full system, can be downloaded. On a fast connection the file comes down in under 60 seconds. The install is under 60 seconds. This means that a student can be up and running in under 2 minutes. Many datasets come with the program.

There are a large number of web pages that contain public domain computer source. The Lahey page under my page is especially valuable. There are a large and growing number of Economic pages such as Bill Barnett's page and the U of Chicago's page that provide "hooks" into other locations.

Pages can show graphics including real time data feeds. Cornell University, www.cornell.edu, has a live picture of the campus that shows people actually walking around, although such pages are slow for students to use from home. My page has been designed to load quickly.

UNIX Background

UNIX was developed at Bell LABS and programmed in C. UNIX provides a “universal” operating system. Runs on most machines being built today. Linux is the PC version of UNIX.

Once you get used to UNIX, you will be able to run on everything from PC's to Mainframes. UNIX at UIC has a number of editors such as vi, emacs pine and x. x works the same on CMS and UNIX. To edit a file on unix give command

x myjob.sas

Differences between UNIX and CMS

UNIX has a directory structure similar to DOS. CMS has minidisks. For example my home directory on tigger is

/homes/homes1/hhstokes

UNIX is case sensitive.

THINGS YOU CAN DO WITH UNIX

Multiple logons with same account.

Monitor a job as it runs. To run a SAS job (where control cards are in myjob.sas) in the foreground give:

sas myjob

To run in the background and allow a logoff give

nohup sas myjob &

using the latter form of the command allows the user to look at the myjob.log and myjob.lst file as the job runs!

Go from one machine another easily. On tigger the command

telnet icarus

gets you to icarus.

Save PC files. *.exe files can be saved on unix (using binary FTP transfers) and moved from machine to machine.

UNIX allows faculty to build webpages to distribute class material.

SUGGESTIONS FOR WEB PAGE BUILDING

Custom links for each item to an html page are elegant but time consuming and not very useful.

Setting up a class ftp directory is quick and easy. A number of possible file extensions allow student launching into the document.

**name.doc => Launch and edit as a Word97 file
 GREAT FOR EDITABLE CLASS
 MATERIAL SUCH AS NOTES**

**name.pdf => Launch into Adobe reader.
 GREAT IF EDITING NOT
 DESIRABLE.**

Name.xls => Launch into Excel97.

MS Office can be used to make all documents. COSTLY HTML DEVELOPMENT IS AVOIDED. DOCUMENTS CAN BE PUT UP QUICKLY WITH ONLY TWO STEPS. MS Office 2000 will have greater HTML support. The problem may be that only the MS IE will be able to read these files but this may not be the case.

HOW TO GET A DOCUMENT TO THE STUDENT

- ftp document to directory**
- Give access with command:**

chmod a+rx * *

STEPS TO MAKE A FTP DIRECTORY CALLED class

Under your directory

```
public_html
```

give command

```
mkdir class
```

To allow access to the directory, from public_html give command

```
chmod a+rx class
```

BE SURE THIS IS IN LOWER CASE.

When you copy the files into class be sure and give read permission to all the files with command

```
chmod a+rx * *
```

which should be given from the class directory.

Consult my basic web page

```
//www.uic.edu/~hhstokes
```

for examples of this way to distribute class material.

My web page can be copied and edited with the editor x. You might start by making a copy of this file in your directory and modifying the file to your specifications using x or pico. The “classic” UNIX editor vi is hard to get used to if you are from the CMS world!! Use x or pico.

KEY UNIX COMMANDS WITH EXAMPLES

Command	What is does
ls	Give list of files in directory. The form ls > j will put the list in file j
x j	Will edit file j
mv j k	Will rename file j to k
cd class	Change to class directory under current directory. To go back to root give command cd
cp j k	Will copy file j to k. Various forms are allowed. Assume I am in my root directory and want to get a file called ch2.b34 from the b34s directory /usr/local/lib/b34slm/ cp /usr/local/lib/b34slm/ch2.b34 myname.b34
mkdir	Makes a subdirectory. The command mkdir jones given from my root makes a direcrtory /homes/home1/hhstokes/jones

- rmdir** **The command**
- rmdir jones**
- will remove the directory jones provided it is empty.**
- ps** **Lists current processes**
- kill** **kill -9 pid kills job with process id pid**
- quota** **Check your disk space**
- w** **check system load**
- > file** **Redirect output to a file. The command**
- ls > j**
- puts a list of files in directory in file j**
- < file** **Pipes input from file**
- rm filename** **Removes the file filename. For example to**
remove myjob.sas use the command
- rm myjob.sas**
- The command rm *.sas removes all jobs ending**
in .sas. The command rm *.* is dangerous! It
can ruin your whole day!