Lab Account and Support

- To create an account and gain access to the lab machines we will be using in ECE/CS 314 you need to go to https://accounts.ece.cornell.edu
- For help regarding account creation and account maintenance please go to http://support.ece.cornell.edu and/or email help@ece.cornell.edu
- The IT staff for ECE can be found in 301 Phillips Hall
- If it's something "simple" your section TA may be able to help you out

Cluster Login

- From CSL Lab (PH 329)
    - Log into one of the CSL workstations using your username and password
    - Open a terminal by either double clicking on the monitor icon, or right clicking on the desktop and selecting XTerm
    - Type `ssh bsdcluster##` where `##` is a 2-digit number between 01 and 15
        - From a Windows machine
- SSH into the cluster using any SSH client (e.g. SSH Secure Shell in PH318)
    - You can get student copies of X-win32 and Secure Shell by emailing a request to help@ece.cornell.edu (let them know you're taking ECE/CS314).

Basic UNIX Commands

- *cd dir* – Changes the current directory to dir, which can be either a subdirectory of the current directory, or a complete path. Typing 'cd' with no parameter changes the current directory to the main folder of the user
- *ls* – Lists files in the current directory. -l gives more information on each file. -a lists all files, including hidden files.
- *ll* – Lists all files in the current directory with extended information.
- *cp source dest* – Copies the file source into the file or directory dest.

- *mkdir dirname* – Creates dirname as a subdirectory in the current directory.
- *rmdir dirname* – Removes directory dirname.
- *rm filename* – Removes file filename.
- *rm –rf dirname* : Removes files and subdirectories within a directory as well as the directory itself, with no warning message
- *clear* – Clears the xterm window of text.
- *pwd* – Prints the current directory path.
- *man command* – Get help on using almost any command by typing 'man' followed by the command.
- *more filename* – Allows you to quickly view the contents of ascii file ‘filename’.
- *chmod* – Allows you to change permissions on the file.

Paths in UNIX

- In the Unix environment, paths are listed with forward slashes ('/') separating directories, instead of the backslashes one might be used to in DOS/Windows. An example of a UNIX directory would be – '*/usr/home/mydirectory*'.
- The current directory is referred to by a period ('.'). So typing *cp* '*somefile* .' will copy *somefile* into the current directory.
- Also, a double period ('.. ') denotes the parent directory of the current directory, so typing 'cd ..' will move up one level in the directory hierarchy.
- To enter your home directory quickly, simply type 'cd ~username'

Editors

- There are several text editors available to you on the CSL machines, including vi, pico, emacs, and xemacs. Abundant references on how to use these editors are available online, however, for users who do not already have an editor-of-choice, xemacs offers the most friendly, graphical interface.

Groups and Projects

- Projects in ECE/CS 314 are typically done in groups of two. There is no benefit to working alone – you will be graded the same as everyone else.

- In order to work in a group you will need to "create" your group on the computing cluster, which will allow you to share and modify files.
    - To do this type: `addgroup.pl groupname user1 user2`
    - Only one person in the group needs to run this command, and that person need not include himself in the list of usernames.
    - If you didn't do anything syntactically offensive the script should run silently
    - This script will create a directory for you in a shared workspace – but the effect is not instantaneous. You will know your group request was processed successfully when you see that your

directory has been created. If this hasn't happened after, say, waiting overnight, contact help@ece.cornell.edu.
    - The directory will be created in one of 15 work directories named `/work/d01, /work/d02, /work/d03...` and so on up through `/work/d15`. It will be named-after your group name above.

- Great so you've found your groups shared directory, now what?
    - You and the members of your group should be able to create files and folders in this folder, and any files or folders you create will implicitly be "associated" with your group (the directory is owned by the group and its sticky bit is turned on).
    - It is your responsibility to make sure that these files are only "visible" to you and your group (i.e. permissions should be set to something like 770), which can be done by using the `chmod` command. Check permissions with the `ll` command.
    - If you're feeling bold you can set your umask in your configuration file to set default permissions for newly created files to 770...

Project Submission

- Most project submission will not use CMS. You will need to refer to project pages for specific details on project submissions, but typically you will type something like `submit314 proj#` from within the directory containing your project files.
- In general, when making a project submission you should do so from within your shared workspace. That is to say working in your home directory is alright, but all the work you turn in must ultimately be in your `/work/d##/groupname/` folder. The submission scripts, when they are used, will depend heavily on this requirement!