CS160B

Introduction to Linux

Mon/Wed 1:10PM to 3PM

Location: Batmale 413

Contact: grwoo@ccsf.edu
Office Hours: By arrangement

Subject to changes throughout the semester.

Course Description:
This is a course in basic Linux. As such, the skills learned in this course will be applicable to any Linux or Unix system or variant. The primary shell we use in the bash shell. The shell constructs taught, however, are applicable to any POSIX-compliant shell. Major topics covered include navigating, the command-line structure of Linux, Linux text processing tools, regular expressions, use of the shell, file manipulation commands and permissions. This course is a significant commitment of time. You should plan to spend an average of 2-5 hours of study and lab time for every hour spent in class for the duration of this course.

Attendance Policy: You are expected to attend all classes and be seated for the class to begin promptly at ten minutes after the hour, when roll will be taken. Any information that you miss due to nonattendance is solely your responsibility. This may include helpful information for assignments and tests. **I may drop you from the class if you miss more than 2 classes in a row without explanation.**

Prerequisite(s): None.
Credit Hours: 2 units
Days: Monday and Wednesdays: 1:10 to 3pm in Batmale 413 (Ocean/Phelan campus) Class will begin promptly at 1:10. There will be a ten-minute break at 2:00 if we're doing an in-class exercise.
Text(s): *The Linux Command Line*, Available Online for Free
Author(s): William Shotts;
URL: http://linuxcommand.org/tlcl.php

Student Learning Outcome(s):
At the completion of this course, students will be able to:

1. Create and use Unix file management utilities to manipulate files and directories.
2. Write and predict the effects of commands that manipulate file and directory permissions.
3. Employ text file utilities to display, sort, replace and edit text.
4. Write and predict the results of Unix commands that use regular expressions to search for patterns in files.

Grading Policy:

Assignments (10 pts each): 30pts
In-Class Participation: 70pts
Quizzes (25 pts each): 50pts
Final Examination: 50pts

There will be two midterms (quizzes) during the semester, focusing on recent material. You may miss one midterm, but if you do, to make up for it, the next midterm counts double or the weight of the final is increased proportionally. There will also be a required cumulative final examination. Notes as well as online access are allowed for all quizzes. Likewise, online access is allowed for the final exam.

Midterm and final grades will be assigned on the following percentage scale:

90% - 100% A
80% - 89% B
70% - 79% C
60% - 69% D
0% - 59% F

Students who do not take the final exam will be assigned a grade of "FW". An "FW" is an "F" grade that also indicates that the student did not complete the course.

Homework:
The best way to learn how to program is to do it!

- **Exercise Sets:**

    In-class exercise sets and checkoffs will be used to determine participation points. Although these will not be handed in, they are important and comprise the meat of the course. Some will have solutions, others are meant for you to do on the machine and test for yourself. Do them! The ungraded exercise sets are the primary source of questions for tests.

- **Taking Notes:**

    The act of taking notes helps remember things to come back to later. I do not give out notes on lectures. If you are not in class, it is your responsibility to get the information from a classmate.

- **Assignments and Labs:**

    There will be 3 graded assignments during the course. They will be assigned 1-2 weeks prior to their due date. Assignments must be turned in on the Canvas website. Assignments are not accepted late for full credit. If you turn in an assignment late, it is kept until the end of the semester. At that time it will be considered for a maximum of 50% credit. Assignments must be turned in on Canvas to be considered for credit.

Group Work:

If you choose to work with other students on in-class exercises or assignments, include contributors' names, login, day and time in your Canvas submission. All contributors will receive the same grade.

Getting Help:

This course will use a Slack channel to get questions and answers. Borderline grades will receive extra-credit points with active postings to the Slack channel. Also, this will be accessible between course sessions. The ACRC lab (3rd floor Batmale hall) also has tutors who are willing to help with basic Linux.

Hills Accounts:

Within a few days of completing your enrollment for this class, an account will be created for you on our school Linux server (hills). If you are adding, it is important that you complete your add as soon as possible. Delaying your add to the class will not be considered an excuse for turning in assignments late. If you had a hills account last semester, your account and password will remain the same. If you are getting a new hills account, your account name will be the same as your CCSF e-mail account (if you did not "opt-out"). Your initial password is formed from your birth date - combining the first three letters of the month (lowercase) with the two-digit day and the two-digit year followed by a period and the first two characters of your login; e.g., if your e-mail account is scharo11@mail.ccsf.edu, and your birthday is Apr 14 1986 your hills login would be scharo11 and your initial password would be apr1486.sc You should immediately change your initial password.

Access to Hills:

You can access hills either from a computer in the ACRC in Batmale Hall or remotely using ssh. If you access hills from the ACRC you should use the linux machines near the rear exit (see the next section). You may also login from a Windows system, but you must first login to the ACRC Windows network. If you wish to do this, you should take an orientation during the first week of class. You can access hills remotely using ssh. Do not use telnet. The particulars of remote access are your responsibility. The ACRC holds a series of three orientation classes on hills and on their Windows network. A schedule is posted in the ACRC. If you are new to hills or the ACRC you should consider attending these sessions.

Access to Linux Machines (Springfield Cluster)

By enrolling in this course you will have an account on the linux machines. These accounts will be created a week or so into the semester as announced in class. The account name and initial password follow the same pattern as your hills account. The linux machines are divided between those in the ACRC and those in the linux classroom. They all share a common set of logins and a common exported file system for home directories. Once on linux, you can use ssh at the command-line to log in to hills to access the class public data files. For security reasons the linux machines are only accessible through hills or another local machine. They are not registered via DNS. If you want to reach a linux system from off-campus, you must login to hills and ssh using the IP address of a linux machine. These IP addresses are taped to the linux machines in the linux area of the ACRC. You should visit it and make a note of them.

Tentative Course Outline:
The weekly coverage might change as it depends on the progress of the class.

Due Date	Homework Schedule
1/17 (W)	• Logging in: console and ssh • Basic commands; script environment
1/22 (M/W)	• Assignment 1 • File structures • SCP/SFTP
1/29 (M/W)	• Wildcards • Basic commands for file manipulation
2/5 (M/W)	• 2/7 Assignment 1 due • File utilities • Command line editing utilities
2/12 (M/W)	• Assignment 2 • Quiz 1 IN CLASS
2/21 (W)	• 2/19 No Class • 2/21 Assignment 2 Due • File Permissions
2/26 (M/W)	• 2/26 Quiz 2 IN CLASS • Assignment 3
3/5 (M/W)	• Filters • Basic Reg Ex
3/12 (M/W)	• Advanced Reg Ex • 3/14 Assignment 3 Due • 3/14 Final Exam (Comprehensive)