

# **CIS18A: Introduction to Linux/Unix**

## **CLASSROOM ATC 312**

**SPRING 2015 : 00436 CIS -018A-61Y**

### **College academic Calendar: Spring 2015**

<http://deanza.fhda.edu/calendar/springdates.html>

### **Instructor Information**

- Name: Lalitha Krishnamurthy
- Office Hours: Not applicable ie None
- Email: krishnamurthylalitha at fhda dot edu
- Online Lab Hours: Wednesdays 845PM-10PM
- Lecture timings for CIS18A : M/W 6 PM - 750 PM

### **Course Description**

This course is designed to discuss Linux/Unix Operating environment and its features. Linux/Unix commands, file structure, Regular expressions, shell features will be discussed Introduction to the features of the UNIX/LINUX operating system including text editing, text file manipulation, electronic mail, Internet utilities, directory structures, input/output handling, and shell features are part of the course curriculum

### **CIS18A Student Learning Outcome Statements (SLO)**

Use the Unix/Linux Operating System utilities and shell features for basic file manipulation, networking, and communication.

### **Course Objectives**

- Edit text using the vi editor. Read Chapter 6.
- Maintain file and directory system
- Establish security and file permission, Perform basic file maintenance and use information utilities
- Utilize the shells, Read Chapter 4
- Run shell commands, Implement quoting rules
- Communicate with email and communication utilities
- Apply filters and use implement basic regular expression
- Use basic utilities to explore system data, user data, and common tasks: exit, passwd, who, whoami, finger, w, tty, stty, uname, clear, man, lpr, script, bc, date, cal, echo, exit
- Observe the different file types; explore filename conventions and use wildcards; use utilities that manipulate regular files: cat, more, less, ls, touch, cp, mv, rm

- Use the vi editor to edit text files with basic commands to move to a certain place in the file, add, delete, search, replace, substitute, copy and paste, cut and paste, bring in another file, save to another file, undo redo, save, quit
- Work with the directory tree and path name convention; use utilities that work with directories: pwd, cd, mkdir, rmdir, which, whereis, find
- Investigate the concept of links and types of links; create links to regular files and directories; explore inodes
- Communicate with other users using write and talk; send and receive mail, including reply, forward, save functions; work across the network using ssh and sftp
- Demonstrate the levels of permission (ugo) and the types of permission (rwx); set file permission; explore the effects of different types of permissions; changing the permission mask
- Using features of the shell: redirection, tee, pipe, running commands one one command line, command grouping, command substitution, quoting rules, job control, variables, environment variables, aliases, command history; explore the major types of shell
- Use filters to produce a required output: more, less, head, tail, cut, paste, wc, uniq, diff, comp, sort, egrep
- Use basic regular expressions for pattern matching: atoms, anchors, operators

## Detailed Class Outline

Week 1 & 2	What is Unix, Why Unix, Architectural overview of Unix, Unix versions, Unix login procedure. Read Chapter 1,2,3
Week 3 & 4	Unix utilities/commands, Unix commands structure, Unix commands passwd, id, who, whois, whoami, ps, top, Unix editors, vi, cat, less, more, pg, page and other filters, Read Chapter 1,2,3,4,5
Week 4 & 5	Unix directory structure, Unix file types. Unix file related commands, ls, mkdir, rmdir, cp, mv etc. Unix file globbing. Read Chapter 4,5
Week 6	Review, Unix file permissions, chmod, chown
Week 7 & 8	Midterm. Unix process management: process identifiers, ps, vmstat, top, sar commands, process hierarchy, Shell basics and commands
Week 9 & 10	grep and egrep its metacharacters and examples, Xargs and examples. Introduce shell, regular expressions, File redirection, Shell Pipelines, Redirection
Week 11 & 12	Summary, Finals 6:15pm

## Texts / Resources

- Book store has the first book, Please use that. It is ok to use a older version. If you prefer or have the second one, you can also use the second book. (Not required to purchase the second one)
- A Practical Guide to Linux Commands, Editors, and Shell Programming (3rd Edition) by Mark G. Sobell (Author) ISBN-13: 978-0133085044 ISBN-10: 013308504X Edition: 3rd
- Practical Guide to the Linux, Mark Sobell, Addison-Wesley. ISBN-10: 0201895498, ISBN-13: 978-0201895490

## Grading

a. In-class assignments 1 for each week for 12 weeks = 60 points, Midterm/Finals 20 points each. Absolute grading for this course (ie I will NOT be grading on a CURVE for cis18a).

b.

- A+ 97% or above
- A 94%-96%
- A- 90%-93%
- B+ 87%-89%
- B 84%-86%
- B- 80%-83%
- C+ 75%-79%
- C- 70%-74%
- D 50%-69%
- F Below 50%