

Linux

course syllabus

- Introduction
 - History
 - Distributions
 - POSIX & Filesystem Hierarchy (FHS)
 - Components: Kernel, Distribution, XFree86, Gnome.
- Installation
- User Software
 - GNOME Basics. Changing the desktop background, plugins.
 - Changing the screen resolution
 - Web browsers & e-mail clients
 - LibreOffice - Productivity tools. Word processor, spreadsheet, presentation software.
 - Gimp
 - How user preferences are stored in your home directory
 - How to restart X11: `sudo service gdm restart`
- The command-line
 - Login / logout / exit / `<ctrl+d>`
 - clear / `<ctrl+l>`
 - reboot / poweroff
 - Virtual Terminals
 - Shift PGup/PGdn
 - file
 - `ls -lha` / `pwd` / `cd` / `cd ..` / `cd -` / `cd ~`
 - `mkdir -p` / `rmdir`
 - tree
 - Relative / Absolute Addresses
 - `cp -rv` / `rm -rf` / `mv`
 - wild cards
 - `cat` / `more` / `less`
 - `head` / `tail -f`
 - `ln -s` / `readlink`
 - man, info

- whereis, apropos / which, type
- whatis, makewhatis
- share/doc, tldp.org
- grep
- tar
- Shell Variables (PATH, TMOUT)

- Basic Administration
 - Adding users, groups
 - su - the obsoleted way to become the root user.
 - sudo - the modern way to run processes as another user.
 - Changing users passwords with the passwd command.
 - Installing new software with apt-get
 - Installing new software with dpkg

- File System: Permissions
 - Access Control
 - Setting Permissions (chmod)
 - Setting Group Ownership (chown)

- Editing text files: vi
 - Command mode(ESC)
 - Insert mode(i)
 - Command line mode(:)
 - :w :q :wq :q! :w filename
 - copy/cut/paste/visual y d p v
 - search forward/backward
 - h j k l \$ 0 G x o A

- System Administration
 - logfiles. Using tail -f to watch /var/log/messages
 - ntp - Setting up time synchronization
 - Mounting disks (mount / umount / eject , (cdrom, usb) , df -hT)
 - fstab
 - Fetching files with wget
 - Reviewing find and du for finding out where your disk space went to (find , slocate / updatedb , du -hscS)
 - Killing processes with kill (ps / kill / killall)
 - Compiling software: configure, make, make install

- Networking
 - Networking Basics (IP/Netmask/Prefix/Gateway/Subnet)
 - IP Settings (temporary, permanent) - ifconfig , route -n
 - Setting DNS settings by editing /etc/resolv.conf
 - ping / traceroute / ttl
 - mii-tool / ethtool / watch
 - tcpdump -tunapo
 - nmap - seeing what ports are open on a host
- SSH Server / ssh client, putty / scp, winscp
- GNU screen - The ability to resume command-line sessions from anywhere.
- Apache and MySQL administration
 - About the Apache webserver.
 - About the MySQL database engine.
 - About the PHP scripting language.
 - Enabling the Apache with PHP and MySQL services
 - Using MySQL Administrator
 - PHPMysqlAdmin - web based administration and query console for MySQL.
 - Adding a MySQL user in phpmyadmin
 - Installing WordPress - a popular blogging software that uses MySQL.
- Automation
 - cut - cutting out the good parts of your input
 - sort - sorting files
 - uniq - finding the unique lines in a set of input
 - sed - searching and replacing
 - tail, head
 - find -exec - running a command on a large set of files
 - Writing a shell script
 - Scheduling tasks with cron.