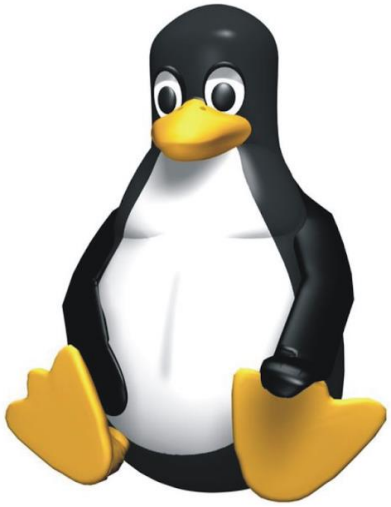
CMP 337 Linux



Linux
Operating System

Course Objectives:

1. To provide a strong knowledge of the open-source operating system.
2. To provide knowledge of the server program in the operating system.

Course Contents:

Unit I: Introduction ---------- 2 hours

1. Linux:
    1. History
    2. Introduction
2. Advantages of Linux over other operating systems
3. FAT, NTFS, EXT
4. Culture of free software

Unit II: Basics of Linux ---------- 5 hours

1. Commands
2. Shells:
    1. Csh
    2. Ksh
    3. Bash

3. Text Editors:
    1. Vim
    2. Pico
4. The file system of Linux

5. Directories and their special purpose

Unit III: Installation of Linux ---------- 3 hours

1. Partitioning
2. Installation of Linux
3. Troubleshooting of installation

Unit IV: System Administration ---------- 6 hours

1. Root login
2. Superuser
3. Configuration of hardware with kudzu
4. Checking system space
5. Monitoring system performance
6. Working with a file system
7. Configuring modules

Unit V: User Management ---------- 6 hours

1. Creating user accounts
2. Setting user defaults
3. Providing support to users
4. Modifying accounts
5. Deleting user accounts
6. Checking disk quotas
7. Sending mail to all users

Unit VI: Security and System Handling --- 6 hours

1. Understanding shell scripts
2. System startup and shutdown
3. Scheduling system tasks
4. Backing up and restoring
5. Password protection
6. File security

Unit VII: Setting up a Web Server---------- 4 hours

1. Introduction to a web server
2. Starting the Apache webserver
3. Configuring the Apache webserver
4. Monitoring server activities

Unit VIII: Setting up DHCP and NIS-------- 5 hours

1. Introduction to DHCP
2. Setting up a DHCP server
3. Setting up DHCP client
4. Understand NIS

Unit IX: Setting up a Database Server ---- 5 hours

1. Configuring database server
2. Checking the status
3. Working with database

Unit X: Setting up DNS Server ---------- 4 hours

1. Introduction to DNS
2. Setting up DNS and configuration
3. Querying DNS

Unit XI: ISP Simulation ---------- 2 hours

1. Integration of servers:
2. DNS, Web, Email, etc.

List of Practical:

1. Linux utilities
2. OS installation project work
3. User management using a terminal
4. Security level access control list
5. Network setting
6. Server configuration of DHCP, DNS, Database server
7. Demonstration of the web, mail, file server.

Text Book:

1. Christopher Negus: Red Hat Linux 8.0, Bible, WILEY

Reference Books:

1. Neil Jankins and Stanschat: Understanding Local Area Networks, **PHI**
2. Andrew S. Tanenbaum: Computer Networks, PHI