

# **COURSE OUTLINE**

## **CMSY-256**

### **Linux Server Administration**

#### **3 Credits**

## **HOWARD COMMUNITY COLLEGE**

### **Description**

This course provides the core foundation for supporting Linux. Students will perform system administration tasks, and install and configure a Linux workstation to an existing network. Prerequisite: CMSY-255. (3 hours lecture, 1 hour lab)

### **Overall Course Objectives**

Upon completion of this course, the student will be able to:

1. Install Linux.
2. Use RPM and YUM to maintain software and system updates.
3. Add and remove software.
4. Understand superuser privileges.
5. Create users and groups.
6. Configure a Linux kernel.
7. Understand disk partitions.
8. Create and maintain a Linux file system.
9. Understand a TCP/IP network.
10. Setup system security and IPTABLES firewall.
11. Setup and configure services and daemons.
12. Configure NFS and SMB/Samba for file sharing.
13. Integrate Linux with an existing network.

### **Major Topics**

- I. Installation of Linux
- II. Linux software management
- III. Managing Users and Groups
- IV. System administration tasks and duties
- V. Review of the command line
- VI. Booting and shutting down Linux
- VII. Understanding runlevels and boot options
- VIII. Working with disk partitions
- IX. Logical volume management
- X. Configuring and compiling the kernel
- XI. Understanding the PROC and SYS pseudo filesystems
- XII. Understanding TCP/IP and networking basics
- XIII. Linux security concepts including IPTABLES
- XIV. Setting up and configuring the Apache web server
- XV. Understanding Secure Shell
- XVI. Implement file sharing with NFS and Samba
- XVII. Setting up print services

XVIII. Understanding how to set up other services such as DHCP, Backup Servers and FTP.

XIX. Learn virtualization basics.

### **Course Requirements**

Grading/exams: Grading procedures will be determined by the individual faculty member but will include the following: two quizzes or exams and five graded lab activity.