

# Inver Hills Community College

## ITC 2480: Administering Linux Servers

### A. COURSE DESCRIPTION

Credits: 3

Lecture Hours/Week: 2

Lab Hours/Week: 2

OJT Hours/Week: \*.\*

Prerequisites:

ITC 2410 - Installing and Configuring Windows Clients

Corequisites: None

MnTC Goals: None

Covers the installation, configuration and maintenance of Linux systems with an emphasis on server administration. A major focus of this course is learning the Linux command line interface for system administration tasks. Other topics involve providing network services such as routing, firewalls, DNS, DHCP, file, web, and email servers to network clients. Prerequisites: ITC 1480 or Linux Essentials Certificate (see course notes). Placement into ENG 1108 or completion of both ENG 0099 and READ 0093/0094 with a grade of C or higher.

**B. COURSE EFFECTIVE DATES:** 08/26/2013 - Present

### C. OUTLINE OF MAJOR CONTENT AREAS

1. Installation, CLI Basics, Package Installation, Basic Use 14%
2. Users, Boot Process, Administration 7%
3. Additional Command Line 7%
4. Webservers and LAMP Software 14%
5. File Servers 7%
6. DNS, DHCP, Routing, Firewalls, and NAT 15%
7. Mail Servers and Services 7%
8. Filesystem Layout, Disks, LVM 7%
9. Security & Monitoring 7%
10. Scripting 15%

## **D. LEARNING OUTCOMES (General)**

1. Determine and configure hardware settings
2. Explain, configure and troubleshoot Linux booting
3. Change runlevels and shutdown or reboot the system
4. Design an appropriate hard disk layout
5. Install a boot manager
6. Use a package management system
7. Work effectively on the command line
8. Perform basic file management
9. Use streams, pipes and redirects
10. Create, monitor and kill processes
11. Perform basic file editing operations with vi
12. Create partitions and filesystems
13. Maintain the integrity of filesystems
14. Control mounting and unmounting of filesystems
15. Manage file permissions and ownership
16. Create and change hard and symbolic links
17. Find system files and place files in the correct location
18. Customize and use the shell environment
19. Customize or write simple scripts
20. Perform basic SQL data management
21. Manage user and group accounts and related system files
22. Schedule automated administration tasks
23. Configure and view system logging
24. Perform basic mail transfer agent administration
25. Demonstrate an understanding of Linux networking fundamentals
26. Configure and modify network settings
27. Perform basic network troubleshooting
28. Configure a DNS client and basic DNS server
29. Perform security administration tasks
30. Setup host security
31. Secure data with encryption
32. Setup a basic Linux router and firewall system
33. Install and configure a SAMBA based fileserver
34. Install and configure a basic webserver
35. Install and configure a database driven web application
36. Install and configure a basic DHCP server
37. Write and modify simple shell scripts
38. Write and modify scripts in Python or Perl
39. Utilize SSH for remote access to a system
40. Practice business soft skills including written, active listening, and oral presentation
41. Document evidence of business skill practice in an electronic portfolio

**E. Minnesota Transfer Curriculum Goal Area(s) and Competencies**

None

**F. LEARNER OUTCOMES ASSESSMENT**

As noted on course syllabus

**G. SPECIAL INFORMATION**

None noted