

Virginia Western Community College
ITN 170
Linux System Administration

Prerequisites

none

Course Description

Focuses instruction on the installation, configuration and administration of the Linux operating system and emphasizes the use of Linux as a network client and workstation.

Semester Credits: 3 Lecture Hours: 3 Lab/Clinical/Internship Hours: 0

Required Materials**Textbook:**

None

Other Required Materials:

Computer and internet access sufficient to view movies, complete and submit work in online labs.

Course Outcomes

At the completion of this course, the student should be able to:

- Explain Linux boot process concepts
- Understand the installation, configuration, and monitoring of kernel modules
- Configure and verify network connection parameters
- Manage storage
- Compare and contrast cloud and virtualization concepts and technologies
- Configure localization options
- Install, configure, update, and remove software
- Manage users and groups
- Create, modify, and redirect files
- Manage services
- Summarize and explain server roles
- Automate and schedule jobs
- Explain the use and operation of Linux devices
- Apply and/or acquire the appropriate user and group permissions
- Configure and implement appropriate access and authentication methods
- Summarize security best practices
- Backup, restore, and compress files
- Perform basic troubleshooting and diagnostics
- Write and execute basic BASH scripts

Topical Description

| Module | Topic |
|---------------|---|
| 1 | Course Policies and Overview QA |
| 2 | Using the Command Line |
| 3 | Streams, pipes, and redirects Find, grep |
| 4 | Users and groups |
| 5 | Cloud Services |
| 6 | Virtualization |
| 7 | Boot Processes Kernel |
| 8 | Packages and Updates |
| 9 | Hardware and Storage |
| 10 | File Management |
| 11 | Networking |
| 12 | Processes and Optimization |
| 13 | Daemons |
| 14 | Introduction to VIM |
| 15 | BASH scripting |
| 16 | Security in Linux |

Notes to Instructors

The Virginia Cyber Range should be used to provide a Linux desktop without setup and maintenance.