BAKER COLLEGE
STUDENT LEARNING OUTCOMES

ITS2320 Linux II
3 Semester Credit Hours

Student Learning Outcomes and Enabling Objectives

1. Demonstrate the skills and knowledge related to Linux system architecture.
    a. Explain how to configure Linux hardware settings.
    b. Describe how to configure Linux as a virtualization guest.
    c. Describe how to change runlevels and boot targets
    d. Perform a system shutdown and the reboot of a system.
2. Demonstrate the skills and knowledge related to Linux installation and Linux package management.
    a. Design a Linux hard disk layout.
    b. Demonstrate how to install a boot manager.
    c. Explain how to manage shared libraries.
    d. Describe the use of Debian package management.
    e. Describe the use of RPM and YUM package management.
3. Demonstrate the ability to use Linux GNU and commands.
    a. Perform system work at the Linux command line.
    b. Process text streams using filters.
    c. Perform basic file management.
    d. Explain how to use streams, pipes and redirects.
    e. Describe how to create, monitor and kill processes.
    f. Demonstrate how to modify process execution priorities.
    g. Demonstrate how to search text files using regular expressions.
    h. Perform basic file editing operations using vi.
4. Demonstrate the skills and knowledge related to configuring devices, Linux filesystems, & filesystem hierarchy standards.
    a. Explain how to create partitions and filesystems.
    b. Describe how to maintain the integrity of filesystems.
    c. Explain how to control mounting and unmounting of filesystems.
    d. Demonstrate the ability to manage file permissions and ownership.
    e. Explain how to create and change hard and symbolic links.
    f. Describe how to find system files and place files in the correct location.
5. Demonstrate competency in working with shells, shell scripting and managing desktop environments.
    a. Demonstrate the customization of the shell environment and writing simple scripts.
    b. Explain how to install and configure X11, graphical desktops and accessibility.

    c. Describe how to manage user and group accounts and related system files.
    d. Explain how to automate system administration by scheduling jobs.
    e. Perform localization and internationalization configuration.
6. Demonstrate the ability to implement administrative tasks and identify essential system services.
    a. Describe how to configure and maintain system time.
    b. Explain how to configure system logging.
    c. Demonstrate use of Mail Transfer Agent (MTA) programs.
    d. Explain how to manage printers and print queues.
7. Demonstrate the skills and knowledge related to networking fundamentals and Linux security.
    a. Demonstrate an understanding of network fundamentals.
    b. Describe how to configure a persistent network using Network Manager.
    c. Explain how to configure and debug network interfaces.
    d. Explain how to configure client side DNS.
    e. Perform security administration tasks.
    f. Explain how to Setup host security.
    g. Demonstrate how to secure data with encryption.

Big Ideas and Essential Questions

Big Ideas

- System Architecture
- Linux Installation and Package Management
- Linux Commands and configurable devices
- Linux filesystems and filesystem hierarchy standards
- Linux shells and shell scripting
- User interfaces and desktops
- Administrative tasks and essential system services
- Networking fundamentals
- Linux security

Essential Questions

1. What are the basic components of Linux?
2. How would you check to determine the amount of memory being used by Linux?
3. What is the minimum number of disk partitions required to install Linux?
4. How do you use BASH?
5. What are the 5 main Directory Commands in Linux?
6. How is the Linux kernel used?
7. How are the two modes of the chmod command used in Linux?
8. What are runlevels and the boot-up sequence in Linux?
9. How are the three kinds of file permission used in Linux?

10. What are soft links and their features?
11. How is the tar command in Linux?
12. What are the process states in Linux and how do you terminate a running process?
13. How would you schedule a task in Linux?
14. What networking commands are used in Linux?
15. How is host security setup in Linux?

These SLOs are approved for experiential credit.

Effective: Fall 2021