# BAKER COLLEGE
# STUDENT LEARNING OUTCOMES

ITS2310 Linux 1

3 Semester Hours

## Student Learning Outcomes and Enabling Objectives

1. Explore the Linux/UNIX file system within a command-line interface (CLI).
   a. Describe the function of an operating system.
   b. Explain multitasking and multiuser environments.
   c. Describe the layers of a Linux/UNIX system.
   d. Demonstrate the ability to switch between shells.
   e. Demonstrate the ability to log in to a Linux/UNIX system.
   f. Demonstrate the ability to execute a variety of Linux/UNIX commands as assigned by the instructor.
   g. Demonstrate the ability to use online help facilities and manuals to solve common problems.
   h. Describe the difference between the root user and a standard user.
   i. Demonstrate the ability to change a user password from the CLI.
   j. Describe the hierarchical directory structure.
   k. Demonstrate the ability to navigate the Linux/UNIX directory structure.
   l. Describe the purpose of file permission settings.
   m. Demonstrate the ability to manipulate file permissions.
2. Explore text-based data manipulation/creation.
   a. Demonstrate the ability to use the vi editor to create, save, and modify files.
   b. Describe the different Linux/UNIX file types.
   c. Demonstrate the ability to use redirection and pipes.
   d. Demonstrate the ability to manipulate files using common command line utilities such as cp, mv, rm, rmdir, and find.
   e. Demonstrate the ability to select, manipulate, and format information.
   f. Demonstrate the ability to view file contents using multiple commands.
3. Customize the shell environment.
   a. Demonstrate the ability to use shell environment variables.
   b. Understand the use of startup files.
4. Create executable shell scripts.
   a. Explain the purpose of script files.
   b. Demonstrate the ability to write and execute shell scripts.
   c. Diagnose errors in sample scripts.
   d. Customize a shell script.
5. Demonstrate understanding of system utilities.
   a. Describe the processes of mounting and unmounting file systems.
   b. Demonstrate the ability to use common Linux/UNIX disk and file utilities such as dd, df, du, and top.

c. Demonstrate the ability to manage system processes.

d. Describe the different GUI desktops available for Linux.

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# Big Ideas and Essential Questions

**Big Ideas**
- **Linux/UNIX file system hierarchy**
- **Command-line operation**
- **File permissions**
- **Data creation/manipulation**
- **System administration**

**Essential Questions**

1. What is the structure of the Linux/UNIX file system?
2. How do file permissions affect security?
3. How is text-based data manipulated?
4. How do shell scripts benefit efficient system administration?
5. Why is the command line needed in a GUI-oriented tech world?
6. What tools does a system administrator have at hand on a Linux/UNIX system?

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These SLOs are approved for experiential credit.

**Effective: Fall 2017**