This course provides an overview of UNIX/Linux Operating System. Students will learn concepts such as file system, variables and permissions, plus file and directory management commands, editors, filters, links and redirection. Lab sessions will be provided to practice and finish home works executing UNIX/Linux commands, both in the shell and the Graphical User Interface (GUI) environments. Advisory: Computer Science G102 or Computer Science G103
1. Manage tasks and services.

2. Manage permissions and security.

3. Write simple shell scripts to enable automation.

4. Understand the concepts and terminologies of the UNIX/Linux operating System.

5. Install and configure the UNIX/Linux operating system.

6. Utilize administrative commands to maintain a local working system.

7. Manage files and directories.

COURSE OBJECTIVES:
1. Demonstrate an understanding of the concepts and terminologies of the UNIX/Linux operating system.
2. Install and configure the UNIX/Linux operating system.
3. Utilize administrative commands to maintain a local working system.
4. Manage files and directories.
5. Manage permissions and security.
6. Write simple shell scripts to enable automation.
7. Manage tasks and services.

COURSE CONTENT:

LECTURE CONTENT:

A. Introduction to UNIX
   1. History
   2. Industry
   3. Versions and platforms

B. Installation and Configurations
   1. Selecting the right UNIX/Linux distribution
   2. Installing a distribution
   3. Configuring the installed system

C. Running Commands
   1. Starting a shell
   2. Choosing a shell
   3. Creating a shell
   4. Managing files and directories
   5. Using the vi text editor
   6. Using filters, links, and redirection

D. Security
   1. Creating accounts
   2. Setting permissions
   3. Securing resources
   4. Managing log Files
   5. Monitoring system performance

E. Scripting
   1. Scripting versus compiled languages
   2. Simple shell scripts
   3. Searching and replacing strings
   4. Using regular expressions
   5. Scripting with looping and branching
   6. Manipulating files
LABORATORY CONTENT:
1) Select the desired UNIX/Linux distribution
2) Install and configure the operating system
3) Create users and groups
4) Create files, directories, and set permissions
5) Create scripts to automate tasks
6) Secure the environment
7) Install or initiate, and review tasks and services

METHODS OF INSTRUCTION:
A. Lecture:
B. Lab:
C. Independent Study:

INSTRUCTIONAL TECHNIQUES:

COURSE ASSIGNMENTS:
Reading Assignments
Text
Websites

Out-of-class Assignments

Writing Assignments
Students will be required to complete system administration assignments, automation scripts, and security management activities. Students will be required to write documentation for their projects.

METHODS OF STUDENT EVALUATION:
Midterm Exam
Final Exam
Short Quizzes
Written Assignments
Essay Examinations
Objective Examinations
Projects (ind/group)
Problem Solving Exercises
Oral Presentations
Skills Demonstration

Demonstration of Critical Thinking:
Students will be demonstrating their laboratory projects. Optional research papers and classroom presentations will further demonstrate their ability in critical thinking and problem solving.

Required Writing, Problem Solving, Skills Demonstration:
Students will be required to complete system administration assignments, automation scripts, and security management activities. Students will be required to write documentation for their projects.

TEXTS, READINGS, AND RESOURCES:
TextBooks:
LIBRARY:
   Adequate library resources include:
   Comments:

Attachments:
   Attached Files