

## Department:

Computer Support Technology

## Course Description:

The course is designed to introduce students to the Linux operating systems. Major topics will include hardware and software configuration, system operation and maintenance, security, Linux troubleshooting and diagnostics, and automation and scripting. The course material is aligned with the CompTIA Linux+ certification objectives.

## Course Competencies:

Upon completion of the course, the student should be able to:

1. Install and maintain Linux Operating Systems.
2. Configure kernel modules, network parameters, storage, cloud, and virtualization technologies.
3. Manage software and services.
4. Explain server roles, job scheduling, and the use and operation of Linux devices.
5. Understand commands, devices, and file systems.
6. Utilize shells, scripting, and data management techniques.
7. Navigate user interfaces, desktops, and essential system services.
8. Analyze system properties and processes.
9. Troubleshoot user, application, and hardware issues on Linux systems.
10. Execute basic BASH scripts.
11. Demonstrate version control using Git.

## Course Content:

- A. Introduction to Linux
- B. Linux Installation and Usage
- C. Exploring Linux Filesystems
- D. Linux Filesystem Management
- E. Linux Filesystem Administration
- F. Linux Server Deployment
- G. Working with the Shell
- H. System Initialization, X Windows, and Localization
- I. Managing Linux Processes
- J. Common Administrative Tasks
- K. Compression, System Backup, and Software Installation
- L. Network Configuration
- M. Configuring Network Services and Cloud Technologies
- N. Security, Troubleshooting, and Performance
- O. Appendix A: Certification
- P. Appendix B: Finding Linux Resources on the Internet
- Q. Appendix C: Applying Your Linux Knowledge to macOS
- R. Appendix D: Applying Your Linux Knowledge to FreeBSD

## Learning Assessments:

Competencies will be assessed by assignments, case problems, quizzes, chapter tests, hands-on projects, lab assignments, a midterm test, and a final test. The test can be in the objective format or in a problem solving format.

## Instructional Materials:

Textbook: Eckert, J. (2024). *Linux+ and LPIC-1 Guide to Linux Certification* (6<sup>th</sup> ed.). Boston, MA: Cengage Learning. ISBN-13: 9798214000800

### **Guidelines for Requesting Accommodations Based on Documented Disability or Medical Condition**

It is the intention of Highland Community College to work toward full compliance with the Americans with Disabilities Act, to make instructional programs accessible to all people, and to provide reasonable accommodations according to the law.

Students should understand that it is their responsibility to self-identify their need(s) for accommodation and that they must provide current, comprehensive diagnosis of a specific disability or medical condition from a qualified professional in order to receive services. Documentation must include specific recommendations for accommodation(s). Documentation should be provided in a timely manner prior to or early in the semester so that the requested accommodation can be considered and, if warranted, arranged.

In order to begin the process all students **must** complete the “Disabilities Self-Identification Form” on our [Disability Services website](#).

This form can also be accessed at the Highland Community College homepage under Students Services/Student Resources/Disability Service or by contacting the Disabilities Coordinator.

### **A Note on Harassment, Discrimination and Sexual Misconduct**

Highland Community College seeks to assure all community members learn and work in a welcoming and inclusive environment. Title VII, Title IX, and College policy prohibit harassment, discrimination and sexual misconduct. Highland Community College encourages anyone experiencing harassment, discrimination or sexual misconduct to talk to report to the Vice President for Student Services, the Human Resources Director or complete an [online report](#) about what happened so that they can get the support they need and Highland Community College can respond appropriately.

There are both confidential and non-confidential resources and reporting options available to you. Highland Community College is legally obligated to respond to reports of sexual misconduct, and therefore we cannot guarantee the confidentiality of a report, unless made to a confidential resource. Responses may vary from support services to formal investigations. As a faculty member, I am required to report incidents of sexual misconduct and thus cannot guarantee confidentiality. I must provide our Title IX coordinator with relevant details such as the names of those involved in the incident. For more information about policies and resources or reporting options, please review our [Equity Grievance Policy](#).