

Course Outline

1. Document Information

Degree Program	Computer Science
Course Number	CS 300
Course Title	Introduction to Linux
Semester Hours	3
Course Coordinator	Norman Carver
Revision Term	Fall 2020
Latest Revision	Fall 2020

2. Catalog Description

A gentle introduction to the Linux operating system. Computer programming experience is not required. Students will gain the knowledge and hands-on experience needed to install, configure, and use Linux. Emphasis will be placed on administration skills and security. Software for Linux will be surveyed, particularly to identify replacements for standard Windows applications. Prior experience with Windows or Macintosh operating systems is assumed.

3. Textbooks

- Open Educational Resources used for this course.

4. References

5. Course Learning Outcomes

- Ability to use Linux operating system in different environments.
- Ability to install Linux on a personal computer.
- Ability to use Linux effectively.
- Ability to secure their Linux installation.

6. Assessment of the Contribution to Student Outcomes

Outcome	1	2	3	4	5	6
Assessed						

7. Prerequisites by Topic

No prerequisite.

8. Major Topics Covered in the Course

1. Linux vs. UNIX vs. Windows vs. DOS vs. MAC operating systems: operating system basics, history, differences, proprietary vs. free and open source software
2. GUIs vs. CLIs: graphical and command-line interfaces tradeoffs, Linux shells, the Linux GUI (X windows and the KDE and Gnome window managers)
3. Linux basics: the file system, permissions, processes, etc.
4. Shell commands: using the Linux CLI effectively.
5. Distributions: what is a Linux distribution, choosing a distribution?
6. Installation: partitioning disks, installing Linux, dual booting
7. Linux configuration and Administration: customization, security, maintenance tasks, administration tools.
8. Network installation and configuration
9. Software installation: RPMs vs. compiling from source
10. Software updating and patching
11. The Linux kernel: custom configuration, compilation, installation
12. Application software: file managers, browsers, email clients, editors, word processing/office suites, software development, etc.
13. Linux and Windows interoperability issues: file formats, fonts, etc.
14. Network security: firewalls, security audits, intrusion detection, viruses, etc.