CS 81.21 Course Outline as of Fall 2025

CATALOG INFORMATION

Dept and Nbr: CS 81.21   Title: INTRODUCTION TO LINUX
Full Title: Introduction to Linux
Last Reviewed: 2/12/2024

Units		Course Hours per Week		Nbr of Weeks	Course Hours Total	
Maximum	3.00	Lecture Scheduled	3.00	17.5	Lecture Scheduled	52.50
Minimum	3.00	Lab Scheduled	0	6	Lab Scheduled	0
		Contact DHR	0		Contact DHR	0
		Contact Total	3.00		Contact Total	52.50
		Non-contact DHR	0		Non-contact DHR	0

Total Out of Class Hours: 105.00   Total Student Learning Hours: 157.50

Title 5 Category: AA Degree Applicable
Grading: Grade or P/NP
Repeatability: 00 - Two Repeats if Grade was D, F, NC, or NP
Also Listed As:
Formerly: CIS 50.71

Catalog Description:
Students will learn the basic concepts of the Linux Operating System including essential commands, computer operating system processes, user account controls, file system management, system security, and documentation. Completion of the course will provide a basic working knowledge of: free and open-source software and licenses; essential Linux commands; login and logout sequences; setting passwords; hardware, processes, programs, and the components of the Linux Operating System; creating and restoring compressed backups and archives; system security; users/groups and file permissions for public and private directories; creating and running simple scripts; and, basic system administration.

Prerequisites/Corequisites:

Recommended Preparation:

Limits on Enrollment:

Schedule of Classes Information:
Description: Students will learn the basic concepts of the Linux Operating System including

essential commands, computer operating system processes, user account controls, file system management, system security, and documentation. Completion of the course will provide a basic working knowledge of: free and open-source software and licenses; essential Linux commands; login and logout sequences; setting passwords; hardware, processes, programs, and the components of the Linux Operating System; creating and restoring compressed backups and archives; system security; users/groups and file permissions for public and private directories; creating and running simple scripts; and, basic system administration. (Grade or P/NP)
Prerequisites/Corequisites:
Recommended:
Limits on Enrollment:
Transfer Credit: CSU;
Repeatability: Two Repeats if Grade was D, F, NC, or NP

ARTICULATION, MAJOR, and CERTIFICATION INFORMATION:

			Effective:	Inactive:
AS Degree:	**Area**		Effective:	Inactive:
CSU GE:	**Transfer Area**		Effective:	Inactive:
IGETC:	**Transfer Area**		Effective:	Inactive:
CSU Transfer:	Transferable	Effective: Fall 1999	Inactive:	
UC Transfer:		Effective:	Inactive:	

CID:

Certificate/Major Applicable:
Both Certificate and Major Applicable

COURSE CONTENT

Student Learning Outcomes:
At the conclusion of this course, the student should be able to:
1. Operate a standard Linux shell by using essential Linux commands and demonstrating comprehension of computer operating system processes.
2. Demonstrate proficiency with user account controls, file system management, and system security.
3. Find and understand Linux documentation.

Objectives:
At the conclusion of this course, the student should be able to:
1. Organize and manage files and directories.
2. Create, modify, and combine documents.
3. Produce and run shell scripts and programs.
4. Evaluate and customize default system parameters.
5. Design, establish, and maintain multiple user accounts and file system.
6. Analyze and maintain system security.
7. Find and evaluate information about Linux from disparate sources.

Topics and Scope:

I. The Linux Community and a Career in Open Source
    A. Linux evolution and popular operating systems
    B. Major open source applications
    C. Open source software and licensing
    D. Information and Communications Technology (ICT) skills and working in Linux
II. Finding Your Way on a Linux System
    A. Command line basics
    B. Using the command line to get help
    C. Using directories and listing files
    D. Creating, moving and deleting files
III. The Power of the Command Line
    A. Archiving files on the command line
    B. Searching and extracting data from files
    C. Turning commands into a script
IV. The Linux Operating System
    A. Choosing an operating system
    B. Understanding computer hardware
    C. Where data is stored
    D. Your computer on the network
V. Security and File Permissions
    A. Basic security and identifying user types
    B. Creating users and groups
    C. Managing file permissions and ownership
    D. Special directories and files

Assignment:

1. Hands-on exercises to demonstrate each topic
2. Reading approximately 30 pages weekly from the textbook
3. Exams and quizzes (2 - 4)

Methods of Evaluation/Basis of Grade:

Writing: Assessment tools that demonstrate writing skills and/or require students to select, organize and explain ideas in writing.

None, This is a degree applicable course but assessment tools based on writing are not included because problem solving assessments are more appropriate for this course.	Writing 0 - 0%

Problem Solving: Assessment tools, other than exams, that demonstrate competence in computational or non-computational problem solving skills.

Hands-on exercises	Problem solving 20 - 60%

Skill Demonstrations: All skill-based and physical demonstrations used for assessment purposes including skill performance exams.

None		Skill Demonstrations 0 - 0%

Exams: All forms of formal testing, other than skill performance exams.

Exams and quizzes		Exams 40 - 80%

Other: Includes any assessment tools that do not logically fit into the above categories.

Participation and attendance		Other Category 0 - 10%

Representative Textbooks and Materials:
NDG Linux Essentials 2.21 online course material, Network Development Group. 2022