

**CS 81.21 Course Outline as of Fall 2009****CATALOG INFORMATION**

Dept and Nbr: CS 81.21 Title: INTRODUCTION TO UNIX

Full Title: Introduction to UNIX

Last Reviewed: 2/12/2024

Units		Course Hours per Week		Nbr of Weeks	Course Hours Total	
Maximum	3.00	Lecture Scheduled	2.00	17.5	Lecture Scheduled	35.00
Minimum	3.00	Lab Scheduled	2.00	8	Lab Scheduled	35.00
		Contact DHR	1.50		Contact DHR	26.25
		Contact Total	5.50		Contact Total	96.25
		Non-contact DHR	0		Non-contact DHR	0

Total Out of Class Hours: 70.00

Total Student Learning Hours: 166.25

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:**

Designed for the serious computer user. This course will introduce the student to the basic concepts of the UNIX operating system. Completion of the course will provide a good basic working knowledge of: essential UNIX commands, login and logout sequences, setting passwords, UNIX E-mail, fundamentals of the vi editor; piping and redirection; security and process control, the Kernel, File System, UNIX shell programming, X Windows, and basic system administration.

**Prerequisites/Corequisites:****Recommended Preparation:**

Course Completion of CIS 51.13 ( or CIS 84.17) and Course Eligibility for ENGL 100 or ESL 100

**Limits on Enrollment:****Schedule of Classes Information:**

Description: Designed for the serious computer user. Introduction to the basic concepts of the UNIX operating system. Provides a good basic working knowledge of: essential UNIX

commands, login and logout sequences, setting passwords, UNIX email, fundamental of the vi editor, piping, redirection security, the Kernal, X Windows and basic system administration.  
(Grade or P/NP)

Prerequisites/Corequisites:

Recommended: Course Completion of CIS 51.13 ( or CIS 84.17) and Course Eligibility for ENGL 100 or ESL 100

Limits on Enrollment:

Transfer Credit: CSU;

Repeatability: Two Repeats if Grade was D, F, NC, or NP

## **ARTICULATION, MAJOR, and CERTIFICATION INFORMATION:**

<b>AS Degree:</b>	<b>Area</b>	Effective:	Inactive:
<b>CSU GE:</b>	<b>Transfer Area</b>	Effective:	Inactive:

<b>IGETC:</b>	<b>Transfer Area</b>	Effective:	Inactive:
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<b>CSU Transfer:</b> Transferable	Effective:	Fall 1999	Inactive:
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<b>UC Transfer:</b>	Effective:	Inactive:
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**CID:**

**Certificate/Major Applicable:**

Certificate Applicable Course

## **COURSE CONTENT**

**Outcomes and Objectives:**

Upon completion of the course, students will:

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. Utilize windowing systems
7. Transfer information between systems
8. Analyze and maintain system security
9. Find and evaluate information about Unix from disparate sources

**Topics and Scope:**

1. Using accounts
  - a. Obtaining an account
  - b. Logging in
  - c. User names
  - d. Passwords
  - e. Directories
2. UNIX system basics
  - a. Entering Shell commands
  - b. Creating files and directories

- c. Navigating the file system
- 3. Basic text editing with vi
  - a. Command vs. Insert mode
  - b. Adding Text
  - c. Deleting text
  - d. Changing text
  - e. Saving a text file
- 4. I/O Redirection
  - a. Input
  - b. Output
  - c. Piping
- 5. Permissions
  - a. Read, write, execute
  - b. User, Group, Other
  - c. Directory permissions
- 6. System Processes
  - a. Listing
  - b. Controlling
  - c. Terminating
- 7. Getting Information on UNIX
  - a. "man" pages
  - b. "help"
  - c. "info"
  - d. FTP (file transfer protocol)
  - e. Newsgroups
  - f. Web searching
- 8. Symbolic links
  - a. Hard vs. symbolic links
  - b. Creating links
  - c. Using links
- 9. Tar & Compress
  - a. Tape backups with tar
  - b. File packages with tar
  - c. Compress
  - d. Gzip
  - e. Other compression utilities
- 10. Text File Utilities
  - a. head
  - b. tail
  - c. cut
  - d. paste
  - e. tr
  - f. sort
  - g. grep
  - h. Using pipelines with text utilities
- 11. Introduction to Shell Scripts
  - a. "bash" and other varieties of shell interpreters
  - b. Shell scripts and programming
  - c. Making shell scripts
  - d. Running scripts
  - e. Script permissions
  - f. The PATH variable and scripts

- g. Special script commands
- 12. The .profile File
  - a. The .profile command and other startup scripts
  - b. How .profile works
  - c. Commands to include in .profile
- 13. System Administration and Organizational Politics
- 14. Creating User Accounts
  - a. The password file
  - b. Home directories
  - c. Mail directories
  - d. Directory permissions
  - e. Global permissions
- 15. Mounting file systems
  - a. Varieties of UNIX file systems
  - b. Creating a file system on disk (using a diskette)
  - c. Mounting file systems
  - d. Unmounting
  - e. Checking and repairing file system integrity
- 16. X Windows
  - a. Installing X Windows
  - b. Varieties of X Windows interfaces
  - c. Using X Windows programs
  - d. Common X Windows programs

**Assignment:**

1. Individual hands-on exercises to demonstrate each topic.
2. Reading approximately 30 pages weekly from the textbook.
3. Participate in class discussion topics.
4. Take exams and quizzes. These may be written and/or hands on.

**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 COMPUTER 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.

Multiple choice, True/false, Matching items, Completion, hands on examinations

Exams  
40 - 80%

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

None

Other Category  
0 - 0%

**Representative Textbooks and Materials:**

"UNIX System V Release 4: An Introduction, 2nd Edition", by Rosen et al.,  
- McGraw-Hill, 1996  
"Linux in a Nutshell, 1st Edition", by Hekman - O'Reilly & Associates,  
1997