School of Computing and Information Sciences

Course Title: Introduction to Using Unix/Linux Systems **Date:** 07/17/08

Course Number: COP 3348

Number of Credits: 3

Subject Area: System	**Subject Area Coordinator:** Nagarajan Prabakar **email:** prabu@cs.fiu.edu
Catalog Description: Techniques of Unix/Linux systems. Basic use, file system structure, process system structure, unix tools (regular expressions, grep, find), simple and complex shell scripts, Xwindows.	
Textbook: "Guide to Unix Using Linux" (4th Edition) by Palmer Course Technology 2008 (ISBN: 1-4188-3723-7)	
References:	
Prerequisites Courses: COP 2250 or CGS 2423 or equivalent.	
Corequisites Courses: None	

Type: Elective

Prerequisites Topics:

- Primitive data types
- Basic program control structures
- Familiarity with methods or functions

Course Outcomes:

1. Be familiar with Unix and Linux operating Systems
2. Master the techniques to use a Linux system
3. Be familiar with the Unix file system and its basic operations
4. Be familiar with the Unix command interpreters
5. Master the techniques of shell programming

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Outline

Topic	Number of Lecture Hours	Outcome
• Introduction o Overview of operating systems o Multi-user, multi-tasking o User-mode, kernel mode o Shells, pipe, input/output redirection	3	1
• File system o Physical storage partitions o File system hierarchy, paths, mounting o Files, directories, file/dir commands o Editor (vi), regular expressions	6	3
• Advanced file processing o cut, paste, sort, join, awk o uniq, comm, diff, sed, tr, grep, wc, pr	6	2,3
• Bash shell programming o Variables: configuration/environment/shell o Operators: defining/evaluating/arithmetic o Logic: sequential/decision/loop/case o Debugging scripts, trap, let o String tests, integer tests, boolean conditions o tput – terminal input/output command o Script development cycle	7	3,4,5
• Perl, CGI programming o Features of Perl, sample scripts o CGI scripts o Dynamic web interface with CGI scripts	6	5
• Utilities and applications o Utility functions o Introduction to C, C++ applications	5	1,2
• Xwindow o Xserver, Xclient o Design of Gnome and KDE GUI on Xserver o Linux desktop customization	3	1

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Course Outcomes Emphasized in Laboratory Projects / Assignments

	Outcome	Number of Weeks
1	Basic UNIX commands Outcomes: 1,2	2
2	Simple bash shell script Outcomes: 3,4	2
3	Advanced bash shell script Outcomes: 2,4,5	2
4	CGI-Perl script Outcomes: 2,5	2

Oral and Written Communication: No significant coverage

Number of written reports:

Approximate number of pages for each report:

Number of required oral presentations:

Approximate time for each presentation:

Social and Ethical Implications of Computing Topics

No significant coverage

Topic	Class time	Student performance measures

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Theoretical Contents

Topic	Class time
Regular expression	0.5

Problem Analysis Experiences

Solution Design Experiences

1.	Design of simple and advanced bash scripts
2.	Design of CGI-Perl scripts