Knight Foundation School of Computing and Information Sciences

Course Title: Unix System Administration   **Date:** 10/08/2018

Course Number: CTS 4348

Number of Credits: 3

Subject Area: System	**Subject Area Coordinator:** Kianoush Gholamiboroujeni
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Catalog Description: Techniques of Unix system administration: system configuration and management; user setup, management and accounting; software installation and configuration; network setup, configuration and management.	
Textbook: UNIX and Linux System Administration Handbook (4ed), Evi Nemeth, ISBN: 0131480057, Prentice Hall, 2011	
Prerequisites Courses: CGS 3767	
Corequisites Courses: None	

Type: Elective

Prerequisites Topics:

- Use of Linux system
- Shell programming basics
- GUI familiarity

Course Outcomes:

1. Be familiar with Unix and Linux operating system distributions

2. Master the techniques to perform a Linux installation and customization

3. Be familiar with Unix administration concepts

4. Master the techniques of user setup and maintenance

5. Master the techniques of system operation

6. Be familiar with Unix client network services

7. Be familiar with Unix server network services

8. Master the techniques of Linux e-commerce server setup and administration

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Outline

Topic	Number of Lecture Hours	Outcome

• Introduction to Linux Admin
  ○ Linux Structure
  ○ Distributions
  ○ Hardware inventory
	3	1

• Installation
  ○ Planning a system
  ○ Components of system
  ○ Installation sources
  ○ Installation process
  ○ Basic setup: time, network, root
  ○ Installing initial software packages
	6	2

• The System Administrator
  ○ Basic tasks
  ○ Ethical aspects
  ○ User setup
  ○ Preparing for emergencies
	6	3,4

• Kernel Configuration
  ○ Preparing kernel sources
  ○ Compilation steps
  ○ Boot sector update
	6	2,5

• Advanced Administrator Tasks
  ○ Backup strategies
  ○ Backup procedures
  ○ Software installation
  ○ Software updates
	6	4,8

• Network services
  ○ Basic network configuration
  ○ Configuring client services
  ○ Printing in Linux
	6	6

• E-Commerce services
  ○ Web server
  ○ Network file system
  ○ Mail servers and related utilities
  ○ Directory services
	9	7

Assessment Plan for the Course & how Data in the Course are used to assess Program Outcomes

Student and Instructor Course Outcome Surveys are administered at the conclusion of each offering, and are evaluated as described in the School's Assessment Plan:
https://abet.cs.fiu.edu/csassessment/

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Course Outcomes Emphasized in Laboratory Projects / Assignments

	Outcome	Number of Weeks
1	Setup and manage e-commerce server Outcome: all	12

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

Topic	Class time	Student performance measures
Ethical implications of system administrator's access privileges	**1 lecture**	**part of project**

Theoretical Contents
No significant coverage

Topic	Class time

Problem Analysis Experiences

1. Hardware Element Inventory

Solution Design Experiences

1. Planning system installation