

## School of Computing and Information Sciences

**Course Title:** Unix System Administration

**Date:** 10/8/18

**Course Number:** CTS4348

**Number of Credits:** 3

<b>Subject Area:</b> System	<b>Subject Area Coordinator:</b> Nagarajan Prabakar <b>email:</b> prabakar@cis.fiu.edu
<b>Catalog Description:</b> Techniques of Unix system administration: system configuration and management; user setup, management and accounting; software installation and configuration; network setup, configuration and management.	
<b>Textbook:</b> UNIX and Linux System Administration Handbook (4ed), Evi Nemeth, ISBN: 0131480057, Prentice Hall, 2011	
<b>Prerequisites Courses:</b> CGS 3767	
<b>Corequisites Courses:</b> 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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# Unix System Administration

## Outline

Topic	Number of Lecture Hours	Outcome
<ul style="list-style-type: none"><li>• Introduction to Linux Admin<ul style="list-style-type: none"><li>○ Linux Structure</li><li>○ Distributions</li><li>○ Hardware inventory</li></ul></li></ul>	3	1
<ul style="list-style-type: none"><li>• Installation<ul style="list-style-type: none"><li>○ Planning a system</li><li>○ Components of system</li><li>○ Installation sources</li><li>○ Installation process</li><li>○ Basic setup: time, network, root</li><li>○ Installing initial software packages</li></ul></li></ul>	6	2
<ul style="list-style-type: none"><li>• The System Administrator<ul style="list-style-type: none"><li>○ Basic tasks</li><li>○ Ethical aspects</li><li>○ User setup</li><li>○ Preparing for emergencies</li></ul></li></ul>	6	3,4
<ul style="list-style-type: none"><li>• Kernel Configuration<ul style="list-style-type: none"><li>○ Preparing kernel sources</li><li>○ Compilation steps</li><li>○ Boot sector update</li></ul></li></ul>	6	2,5
<ul style="list-style-type: none"><li>• Advanced Administrator Tasks<ul style="list-style-type: none"><li>○ Backup strategies</li><li>○ Backup procedures</li><li>○ Software installation</li><li>○ Software updates</li></ul></li></ul>	6	4,8
<ul style="list-style-type: none"><li>• Network services<ul style="list-style-type: none"><li>○ Basic network configuration</li><li>○ Configuring client services</li><li>○ Printing in Linux</li></ul></li></ul>	6	6
<ul style="list-style-type: none"><li>• E-Commerce services<ul style="list-style-type: none"><li>○ Web server</li><li>○ Network file system</li><li>○ Mail servers and related utilities</li><li>○ Directory services</li></ul></li></ul>	9	7

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**Course Outcomes Emphasized in Laboratory Projects / Assignments**

	<b>Outcome</b>	<b>Number of Weeks</b>
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**

<b>Topic</b>	<b>Class time</b>	<b>Student performance measures</b>
Ethical implications of system administrator's access privileges	<b>1 lecture</b>	<b>part of project</b>

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**Theoretical Contents**

No significant coverage

Topic	Class time

**Problem Analysis Experiences**

1. 

Hardware Element Inventory
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**Solution Design Experiences**

1. 

Planning system installation
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