

**Cosumnes River College**  
CISN 303  
**Network Administration – Linux Server**  
A Hybrid-Online Course  
Spring 2016

**Instructor:** Buddy Spisak

**Office Hours:** Mon. 6:00-7:00 p.m. (Mar. 15 to May 18)

**Office:** BS-143

**Voice Mail:** (916) 286-3691, ext. 14162

**Email:** [spisakj@crc.losrios.edu](mailto:spisakj@crc.losrios.edu) The turnaround time for responding to most emails is about one to two days. Be sure to include your name and the course number in each email so I can identify who you are and what the email is about.

**Course Web page:** <https://d2l.losrios.edu/>

**Instructor Web page:** <http://crc.losrios.edu/spisakj/>

**Prerequisites:** CISN 300

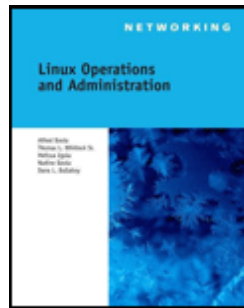
**Lecture:** Online

**Lab:** Online

**Accepted for Credit:** CSU

**Class Credits:** 3 units

**Required Textbooks:**



**Title:** *Linux Operations and Administration*

**Authors:** Alfred Basta, Dustin Finamore, Nadine Basta, & Serge Palladino

**Publishing Info:** Course Technology, 2013

**ISBN10:** 1-1110-3530-X

**ISBN13:** 978-1-1110-3530-3

**Optional Materials:**

a flash drive to store your work for the class

**Course Description:**

This course provides introductory coverage of Linux Network Administration. The course maps to the CompTIA Linux+ certification exam and to SAIR/GNU's Linux Networking course. Specific course topic coverage includes: introducing Linux; exploring the desktop; using the Shell; understanding users and file systems; understanding text processing; managing processes; using network clients; installing Linux; understanding system initialization; managing software packages and file systems; managing users; configuring networks, system and kernel management; writing Shell scripts; and advanced topics and troubleshooting. The course requires many hands-on projects, which allow students to practice what they learn.

## Student Learning Outcomes and Course Objectives:

As a result of completing this course, you will be able to:

- SLO #01: EXAMINE THE BASIC FEATURES OF THE LINUX OPERATING SYSTEM IN COMPARISON TO OTHER OPERATING SYSTEMS.
  - Describe how Linux was created and how it compares to other operating systems.
  - Outline the skills required and challenges facing a system administrator.
  - Distinguish between the graphical system used by Linux and command line.
  - Support the basic features of the GNOME and KDE desktop interfaces.
- SLO #02: UTILIZE THE SHELL AND EVALUATE ITS FUNCTIONALITY.
  - Manipulate variables in the shell to control the working environment.
  - Formulate data at the command-line and for print files.
  - Manipulate text using the vi editor.
  - Create and manage user and group accounts.
  - Construct access permissions on files and directories.
- SLO #03: COMPARE AND CONTRAST DIFFERENT LINUX NETWORK TOOLS.
  - Demonstrate how to log in to a Linux system over a network connection. Describe how it is different from a Windows network connection.
  - Select the appropriate command-line tools for common network services such as FTP and the Web.
  - Illustrate the difference between network interfaces using command-line and graphical utilities.
  - Apply the skill necessary to set up a simple DHCP server and manage networked printing services.
- SLO #04: ANALYZE AND ARTICULATE THE BASIC STEPS OF A LINUX SOFTWARE INSTALLATION.
  - Analyze the hardware components of your computer system.
  - Design a hard disk space to hold a new Linux installation.
  - Describe the steps that hardware starts a standard PC operating system.
  - Explain the difference between the LILO and GRUB boot loader.
  - Create the init program and the scripts used to start system services.
  - Manage system services after start-up.

## Methods of Measuring Student Learning Outcomes:

- You will demonstrate knowledge of network and Internet security applications and standards through class discussions and achievement on quizzes and final examination.
- You will demonstrate competence in the coursework by completing lab work and participating in Desire 2 Learn (D2L) discussions during the semester.

## Student Obligations:

- **Attendance:** Since this course is online, only attendance at the final exam on May 12 is necessary. There will be no weekly lab time on campus, so it is up to you to complete all assignments at home. Please note that failure to complete 6% of the total course work by April 5 may result in your being dropped from the course.
- **Late Work:** Unless noted, all assignments are due on Sunday by midnight each week. Late work will be accepted ONLY if you have contacted me prior to the due date either by email or voice mail. In general, late work is due the next week, and no late assignments may be turned in after one week from the original due date, regardless of the reason. For every day an assignment is late, you will lose 10% of its grade.
- **Due Dates:** Unless noted, all assignments will be submitted in Desire2Learn (D2L) under the "Dropbox" link. If, for any reason, you cannot access D2L or are unable to submit an assignment on time, please email it to me instead so that you are not penalized for being late. Quizzes

cannot be taken, nor can D2L discussion items be submitted past their due dates. If you miss a quiz and you want to make up points, you can take advantage of the extra credit assignments posted in D2L. Everyone is welcome to work on the extra credit assignments. Typically, they are five to ten points each, depending on the difficulty of the assignment.

- **Labs:** There will be six labs credited for the class.
- The due dates are located in the **SCHEDULE** portion of this handout. We will spend a lot of time working on lab activities. Each lab has a set of review questions that you will need to answer in D2L in order to receive points for that assignment.
- **D2L Discussions:** I want everyone to take a pro-active approach to learning this material. This includes using the D2L Discussions feature to ask questions and also answer other students' questions. Each week I will also post questions that you can answer to further your understanding of the material. I expect two postings each week unless otherwise noted.
- **Final Exam:** The final exam will consist of two parts. One part of the exam will be a hands-on practical demonstration of assigned tasks, and the other part will be an exam taken in D2L.
- **Plagiarism Policy:** It is inappropriate, and a violation of academic policy, to copy information from any source (including, but not limited to, textbooks, magazine articles, newspaper articles, and Internet articles) without giving proper credit to the author by using standard quotation procedures such as in-line quotes, footnotes, endnotes, etc. Quotes may not exceed 25% of the assignment's total length. You will receive no credit (0 points) for any assignment that copies any material from any other source without giving proper credit to the author(s). Repeat offenders of this policy are subject to academic discipline as outlined in the policies published by the college.
- **Cheating:** Students who cheat will receive a failing grade for the course. [See the Student Behavior and Academic Integrity page of the college website (<https://www.crc.losrios.edu/catalog/geninfo/integrity>) for additional information.]
- **CRC Honor Code:** Academic integrity requires honesty, fairness, respect and responsibility. See the Cosumnes River College Honor Code posted on the college website (<http://www.crc.losrios.edu/files/resourceguide/CRC-HonorCodeForm.pdf>).
- **Email:** Every student will be required to have an email account. If you do not have an email account, the college provides free email accounts for all current students. To activate your account, go to [www.losrios.edu/lrc/lrc\\_email.php](http://www.losrios.edu/lrc/lrc_email.php) and follow the directions provided.
- **Email Etiquette:** I will not tolerate rude and demeaning comments or emails to anyone in this class. Please keep your comments and emails topic-related. If I determine that a comment or email to anyone else in the class is rude or demeaning, I will warn you once. If your behavior continues to be unacceptable, I will refer you to the administration of the college for disciplinary action.
- **Disabilities:** If you have a documented disability and wish to discuss academic accommodations, please contact me after class or contact the Office of Disabled Student Programs and Services at 691-7275 as soon as possible.
- **Desire 2 Learn (D2L):** This class utilizes a product called "Desire 2 Learn." It is highly recommended that you check the website frequently for scheduling updates and homework assignments. All of the homework assignments and quizzes will be done on D2L.
- **Online Course Responsibilities:** This course requires significant self-motivation. You must not get behind. Labs and weekly assignments can take up to eight hours to finish. Please don't try to finish them in one day. Not all activities are created equal. Some may take a bit longer than others. You would normally spend three hours per week in class for this course for a total of 54 hours. Allow yourself at least eight hours per week to complete the activities online, including the time spent writing and posting D2L Discussion items. You should plan additional time to read the textbook and study for the quizzes. Some people believe the online format provides a much more convenient way to study this subject than an on-campus framework because they love to read and avoid the parking problems. Others feel very intimidated at first. Be patient as you work your way through the activities.

**Grading:**

<b>Course Topic</b>	<b>Points</b>	<b>Total</b>	<b>Approximate % the of Grade</b>
Labs (6)	50	300	37
Orientation Quiz (1)	10	10	1
Quizzes (6)	30	180	22
D2L Discussions (6)	20	120	15
Final Exam (1)	200	200	25

**Point System:**

There are 810 total assigned points.

**Grade Ranges:**

A=729-810, B=648-728, C=567-647, D=486-566, F=0-485

**Schedule:** The schedule is tentative and can change during the course of the term. All changes will be located under the "News" section in D2L for the course.

	<b>Day:</b>		<b>Lecture/Lab Schedule:</b>	<b>Assignment Due:</b>	<b>Due Date (By Midnight):</b>
Week 1	Tues.	3/15	Orientation and Introductions	View the Online Orientation	Sun., Mar. 20
			Chapter 1: Intro. to Linux Operating System Chapter 2: Installing OpenSUSE Chapter 3: Managing Files and Directories	Orientation Disc. Orientation Quiz	
			Lab #1		
			Spring Break (March 21 – 27)		
Week 2	Tues.	3/29	Chapter 4: Creating and Editing Files with Text Editors Chapter 5: Creating Shell Scripts and Displaying File Contents Chapter 6: Managing Data - Backup and Recovery Processes	Disc. #1 (Ch. 1-3)	Sun., Apr. 3
				Lab Review #1	
			Lab #2	Quiz#1 (Ch. 1-3)	
Week 3	Tues.	4/5	Chapter 7: Managing Users and Groups Chapter 8: Network Communications Chapter 9: Installing Software Packages	Disc. #2 (Ch. 4-6)	Sun., Apr. 10
			Lab #3	Lab Review #2	
				Quiz#2 (Ch. 4-6)	
Week 4	Tues.	4/12	Chapter 10: Apache Web Server Chapter 11: Domain Name System Chapter 12: Configuring a Mail Server	Disc. #3 (Ch. 7-9) Lab Review #3	Sun., Apr. 17
			Lab #4	Quiz #3 (Ch. 7-9)	
Week 5	Tues.	4/19	Chapter 13: Working with the Network File System Chapter 14: Planning for a Linux Installation Chapter 15: Linux File System Management and Administration	Disc. #4 (Ch. 10-12) Lab Review #4	Sun., Apr. 24
			Lab #5	Quiz #4 (Ch. 10-12)	
Week 6	Tues.	4/26	Chapter 16: Managing Resources in Linux Chapter 17: Networking in a Linux Environment Chapter 18: Using Samba for Interoperating Linux and Windows	Disc. #5 (Ch. 13-15) Lab Review #5	Sun., May 1
			Lab #6	Quiz #5 (Ch. 13-15)	
Week 7	Tues.	5/3	Chapter 19: Securing Linux Chapter 20: Advanced Linux Administration	Disc. #6 (Ch. 16-18)	Sun., May 8
			Lab #7 (optional)	Lab Review #6	
				Quiz#6 (Ch. 16-18)	
Week 8	Thur.	5/12	Final Exam		Thur., May 12
				Lab Review #7	All work needs to be turned in.