COMPUTER INFORMATION SYSTEMS 21A
Linux Operating System Admin

Class Code: CIS-21A-41592/41894
Term: WIN 2023
When: Online
Where: Online via Canvas and NetAcad. Lectures are recorded.
Instructor: Skip Berry
Email: skip.berry@rcc.edu

DIVERSITY STATEMENT

Riverside City College School of Business embraces a notion of an intellectual community enriched by diversity with multiple dimensions, including race, ethnicity and national origin, gender, gender identity, sexuality, class, and religion. We are particularly committed to populations that have historically been excluded from equitable participation in the classroom, higher education institutions, and our communities. Individually, we are devoted to addressing our unconscious bias to pave the way for a more inclusive curriculum and learning environment.

COURSE DESCRIPTION

This course covers the fundamentals of the Linux operating system, system architecture, installation, command line functions, performance, and file systems. All major administrative responsibilities associated with this operating system are performed. These tasks shall include but not be limited to system installation, configuration, security, and backups for both client and server which might be found in a small business environment. This course aligns with the Linux Professional, LPI.org LPIC-1 Certification exam.

STUDENT LEARNING OUTCOMES

Upon completion of the course, students will be able to:

1. **Describe the overall role the administrator in relation to the Linux operating system.**
2. **Install the Linux operating system on desktops and servers.**
3. **Identify and perform all system administrator responsibilities.**
4. **Perform maintenance of business systems for update, security, and backups.**
5. **Relate operating system theory to the installation and maintenance of Linux in the business environment.**

Office: Online via Zoom

Office Hours: No Office Hours in Summer / Winter – Help by email or appointment

Text Books (optional – all materials are online at NetAcad with the NDG purchase.)

The reading materials and labs are available online on the Cisco NetAcad learning system. https://netacad.com

You will need to purchase an access code from NDG once you are enrolled in NetAcad. The cost for this is $29.95 and is required to access the course reading, lab content and access to the virtual machines to complete the labs.

It is also recommended (optional) that you purchase the following book either online or at the RCC bookstore:

Linux Pocket Guide 3rd edition by Daniel J. Barrett

ISBN:9781491927571 Published by O'Reilly Media

GRADING METHODS

Assessment:

Reading & Labs	20%
Chapter Exams	20%
Online Discussions	10%
Projects	20%
Midterm/Chapter Final Exams / Comprehensive Final Exam	30%
Total	100%

Grade Evaluation:

A	90% - 100%
B	80% - 89%
C	70% - 79%
D	60% - 69%

F 59% or below

CHAPTER EXAMS:

There will be 26-chapter exams. These will cover the material covered in each chapter. These can be taken up to 3 times.

PROJECTS:

There will be 5 **required** projects in this class.

MAJOR EXAMS: (These exams are required to pass the class)

1 Midterm Exam covering chapters 1- 14
1 Chapter Final Exam covering chapters 15-26 and
1 Comprehensive Final Exam

All exams will be taken online.

The Major Exams are required elements for this course. Failure to take the major exam without an approved excused absence will result in a course failure. **The comprehensive final exam will include questions from all 27 chapters.**

There will be no make-up examinations. It is the student's responsibility to arrange for an excused absence **before** the exam. A grade of zero will be assigned for all exams missed without an excused absence. If an emergency arises on the day of the final, it is communicated to the instructor, and the instructor deems that the absence is excused, then immediate arrangements are to be made to take the final exam.

ORIGINAL WORK

Discussing the lecture material with your classmates is part of the learning process. You are encouraged to work together with your peers on all outside assignments. However, **students are expected to do their own original work.** Please see the RCC Student Handbook for the College Policy on Academic Honesty. If in any doubt, please consult with me, and I will be happy to define what constitutes violation of academic honesty.

ATTENDANCE

For online courses, attendance is determined by online course activity. Activity is defined as logging into the online learning management system, reading course material, completing lab work, taking chapter exams, major exams and completing and completing and submitting assigned projects. Failure to login and complete work for 3 or more days will be seen as inactivity and may result in you being dropped from the course.

LAB REQUIREMENTS

This course contains lab assignments, which must be completed on a computer. You have the option of completing the assignments on any computer (except Chromebook), which has the appropriate software which includes:

Windows 8.1 or better, Mac OSX or Linux

Microsoft Word (0365), Writer, or Libre Office

VirtualBox or VMware virtualization software (will be discussed in class)

Adobe Reader or Acrobat

TUTORIAL SERVICES

Everyone needs a little help from time to time. Tutorial Services provides a supportive learning environment to all students seeking academic support. We strive to help our students better prepare for classes and develop the skills necessary for a successful college career**.**

Tutoring is Free to All Enrolled Students

Student must be enrolled in subject requested for tutoring. Tutoring sessions are led by qualified tutors who received an "A" or "B" in the respective courses for which they choose to tutor. They reinforce specific course material emphasized by the professors and use their own successful student experiences to integrate what-to-learn with how-to-learn. All of our tutors come highly recommended by faculty members.

Phone number: (951) 222-8170

DISABILITY RESOURCE CENTER

If you have a physical, psychiatric/emotional, medical or learning disability that may impact on your ability to carry out assigned course work or exams, I urge you to contact the staff in Disabled Student Services, room CAK 130, 222-8060 (Voice) / 222-8062 (TDD). DRC will review your concerns and determine, with you, what accommodations are necessary and appropriate. All information and documentation of disability is strictly confidential.

COURSE SCHEDULE

Topic	Assignments	Due date
Week 1: **Chapters 1 – 5**		All work due on Due Date @ 11:59 PM
Reading:	1. Introduction 2. Using the Shell 3. Configuring the Shell 4. File Globbing 5. File Manipulation	1/9/23
Course Discussion:	Introduce Yourself	1/9/23

Labs:	Lab 2 – Using the Shell Lab 3 – Configuring the Shell Lab 4 – File Globbing Lab 5 – File Manipulation	1/9/23
Exams:	Chapter Exams 1 – 5	1/9/23
Project:	**Linux Virtual Machine Installation Project**	**1/12/23**
Week 2: **Chapters 6 – 9**		
Reading:	6. Finding Files 7. Text Utilities 8. Regular Expressions 9. The vi Editor	1/16/23
Course Discussion:	Bash Shell Scripting	1/16/23
Labs:	Lab 6 – Finding Files Lab 7 – Text Utilities Lab 8 – Regular Expressions Lab 9 – The vi Editor	1/16/23
Exams:	Chapter Exams 6 – 9	1/16/23
Project:	**VIM/Nano Text Editor Project**	1/16/23
Week 3: **Chapters 10 - 14**		
Reading:	10. Standard Text Streams and Redirection 11. Managing Processes 12. Archive Commands 13. File Permissions 14. Filesystem Links	1/23/23
Labs:	Lab 10 – Standard Text Streams and Redirection Lab 11 – Managing Processes Lab 12 – Archive Commands Lab 13 – File Permissions Lab 14 – Filesystem Links	1/23/23
Exams:	Chapter Exams 10 - 14	1/23/23
Project:	**Bash Shell Script Project**	**1/23/23**
Midterm Exam	**Midterm Exam Chapters 1 – 14**	**1/26/23**
Week 4: **Chapters 15 - 20**		
Reading:	15. Hardware Configuration 16. The Boot Process 17. Bootloaders 18. Run Levels 19. Designing a Scheme (partitioning)	1/30/23
Course Discussion	Linux Distro Watch	
Labs:	Lab 15 – Hardware Configuration	1/30/23

	Lab 17 – Bootloaders Lab 18 – Run Levels	
Exams:	Chapter Exams 15 – 20	1/30/23
Project:	**Bash Shell Loop Script Project**	1/30/23
Week 5: **Chapters 21 - 24**		
Reading:	20. Creating Partitions 21. Mounting Filesystems 22. Maintaining Integrity 23. Fixing Filesystems	2/6/23
Labs:	Lab 21 – Mounting Filesystems Lab 22 – Maintaining Integrity Lab 23 – Fixing Filesystems	2/6/23
Exams:	Chapter Exams 21 – 24	2/6/23
Project:	**Final Project**	2/6/23
Week 6: **Chapters 25 – 26**		
Reading:	24. Package Management 25. Managing Shared Libraries 26. Virtualization	2/9/23
Course Discussion:	Exploring the LPI-1 Certification	2/9/23
Labs:	Lab 24 – Package Management Lab 25 – Managing Shared Libraries	2/9/23
Exams:	Chapter Exams 25 - 26	2/9/23
Chapter Final Exam	**Final Exam - Chapters 15 – 26**	**2/9/23**
Comprehensive Final Exam:	**Comprehensive Final Exam – Chapters 1 - 26**	**2/9/23**