

**LAGUARDIA COMMUNITY COLLEGE CITY UNIVERSITY OF NEW YORK
DEPARTMENT OF MATHEMATICS, ENGINEERING, and COMPUTER SCIENCE**

MAC232 UNIX Network Operating System

4 hours (2 lecture, 2 lab), 3 credits

Prerequisites: MAC101 or MAC108

Prerequisite: CSE099, ENA/ENG099/ENC101

Catalog Description:

This course is an introduction to the UNIX operating system. It is designed to teach students how to effectively integrate UNIX utilities and system calls within network administration. Additionally, it will teach students how to customize work-stations through the use of LAN management and administrative functions. Upon completion of this course, students may choose to take the SCO ACE certification exam.

Instructional Objectives:

1. To Introduce the students to the common characteristics of the UNIX operating system.
2. To introduce the students to the UNIX file system.
3. To introduce the students to the UNIX shell in order to create new commands, command arguments, shell variables. Elementary control flow, and I/O redirection.
4. To introduce the student to system calls in order to control input-output, file creation, error processing and directories.
5. To familiarize students with UNIXware command administration.
6. To show students how to install a UNIX based LAB workstation.
7. To show students how to create user accounts, manage I/O devices, and solve network problems.
8. To introduce students to remote access configuration.
9. To introduce students to the Internet via TCP/IP using the UNIX system.
10. To Provide the student with different methods of assessment throughout the course, including written exams, group laboratory assignments, and a final project.

Student Learning Outcomes:

1. Describe common characteristics of the UNIX operating system.
2. Explain the UNIX file system.
3. To write simple programs using the UNIX shell in order to create new commands, command arguments, shell variables, elementary control flow, and I/O redirection.
4. Demonstrate system calls in order to control input-output, file creation, error processing and directories.
5. Demonstrate, through UNIXware, the supervisory administrative commands.
6. Demonstrate and explain how to install a UNIX based LAN workstation.
7. To demonstrate how to create user accounts, manage I/O devices, and solve network problems.
8. Explain how to configure the workstation for remote access.
9. Explore the Internet via TCP/IP using the UNIX system.
10. Demonstrate knowledge of the course material through

written exams, group laboratory assignments, and final projects.

Grading Standards:

Midterm	30%
Lab Exercises (5 @ 4%)	20%
Group Lab Project (2 @ 10%)	20%
Final	30%
Total	100%

Textbook:

Linux+ Guide to Linux Certification, 5th Edition, by Jason W. Eckert; Publisher: CENGAGE Learning, Copyright: 2020 Format: Paper; 904 pp Published: 2019; ISBN-10: 1-337-56979-8; ISBN-13: 978-1-337-56979-8.

Grading Chart:

Grade	F	D-	D	D+	C-	C	C+	B-	B	B+	A-	A
Cut Point	0	60	63	66	70	73	76	80	83	86	90	93

Academic Integrity:

This class will be conducted in compliance with LaGuardia Community College’s academic integrity policy.

Attendance:

The maximum number of unexcused absences allowed is 15% of the total class meetings (about 7 hours). Unexcused absences beyond this maximum will result in grade of WU or F.

Comments:

The grading standard listed above and the suggested homework problems listed in the course outline are both subject to modification by the instructor.

COURSE OUTLINE

Weeks	Topic	Chapter
Week 1	Introduction to UNIX UNIX as an Operating System Components parts of the UNIX Operating Systems Simple UNIX Commands	Chapter 1

Week 2	The UNIX editor The UNIX File System File basics The File Structure The directory hierarchies	Chapter 2
Week 3	The UNIX Shell Command Line Structure Metacharacters Creating New Commands Commands, Arguments and Parameters More UNIX Shell	Chapter 3
Week 4	Shell Variables I/O Redirection Filters	Chapter 4
Week 5	Shell Programming Simple Program Commands	Chapter 5
Week 6	Batch Programming Running and Executing Programs	Chapter 6
Week 7	UNIX Systems Administration Introduction to System Calls Creating User Accounts	Chapter 7
Week 8	Functions of the LAN Manager Administrative rights and user control .Managing I/O devices . Network Installation and Configuration.	Chapter 8
Week 9	Software Installation Troubleshooting the Network User Administration.	Chapter 9
Week 10	The TCP/IP Protocol General Concepts.	Chapter 10
Week 11	More TCP/IP Protocol. Using TCP/IP to surf the Internet .	Chapter 14
Week 12	Certification Exam Preparation and Review.	
Week 13	Final Examination	