COURSE SYLLABUS
COM259: LINUX Fundamentals

Course Description

History, concepts, and facilities of the LINUX operating system will be discussed. The course introduces the user interface, common commands, and basic system administration of a LINUX operating system. Students will learn how to write and execute LINUX shell scripts used for the controlled execution of a series of basic LINUX commands. The basics of script writing – creation, writing in the shell programming language, debugging, and execution – will be covered, along with an overview of built-in shell commands available to the user. Advanced topics will include use of user/shell/environmental variables, script commands for decision-making, looping and flow-control, and creation of shell aliases and functions.

General Course Information

Number of Units/Weeks	8/10
#Hours Lecture/#Hours Laboratory/#Hours Homework	60/40/120
Prerequisite(s)	None
Co-requisites (s)	None
Course Developer(s)	Ed Nowak / Bill Reid
Date Approved / Last Review	September 2005 / March 2018

Learning Outcomes

Upon completion of the course, student will be able to:
- Log on to clients and servers using network operating systems.
- Navigate a hierarchical storage system.
- Create, manipulate and edit files and directories.
- Obtain system information including active users and active processes.
- Write and debug scripts, simple programs
- Use programming constructs including variables, selection and repletion control structures.

Instructional Methods Employed in this Course

A number of instructional/learning methods are employed in this course, including the following:
- Lecture and reading assignments.
- Hands-on exercises.
- Team environment.
- Practical application of theory and skills in authentic design projects.

- Build on prior knowledge and experience of students to enhance richness of class activities.

Information Resources for this Course

Textbook

Sobell, M. (2013). *A practical guide to Linux commands, editors, and shell programming* (3rd ed.). Upper Saddle River, NJ: Prentice Hall.

Table/Topics & Assignments

Types of Assignments:

Lecture -
Considered Lecture Hours
Classroom Discussion -
Considered Lecture Hours
In Class Critique -
Considered Lecture Hours
Delivering Oral Presentations -
Considered Lecture Hours
In Class (IC) Exercise -
Considered Lecture Hours
Reading -
Considered Homework (HW), work done outside of class
WebClass lesson (non-online courses) -
Considered HW, work done outside of class
Lab Work -
Considered Lab Hours
Quiz, Midterm or Final -
Considered Lecture Hours

Week 1						
Type	**Topic/Description**	**LEC Time**	**LAB Time**	**HW Time**	**Point Value**	**Due**
LEC 1A	LINUX Overview, Login, Using Directories and Files Shells and Editors	6	0	0	0	
LAB 1A	LINUX Overview, Login, Using Directories and Files Shells and Editors	0	4	0	0	End of week 1
HW 1A	Reading chapters 1&2 (47 pages) Evaluated by HW 1B - Assessment – Quiz week 3	0	0	4.7	0	
Total Week 1		6	4	4.7	0	
Week 2						
		LEC	**LAB**	**HW**	**Point**	

Type	Topic/Description	Time	Time	Time	Value	Due
LEC 2A	File Systems, Permissions and File Manipulation	6	0	0	0	
HW 2A	Reading chapters 3&4 (75 pages) Evaluated by HW 2B - Assessment – Quiz week 3	0	0	7.5	0	
LAB 2A	File Systems, Permissions and File Manipulation	0	4	0	0	
Total Week 2		6	4	7.5	0	

Week 3

Type	Topic/Description	LEC Time	LAB Time	HW Time	Point Value	Due
LEC 3A	System Information and Your Environment	6	0	0	0	
LAB 3A	System Information and Your Environment	0	4	0	0	
HW 3A	Reading chapters 5&6 (86 pages) Evaluated by HW 3C - Assessment – Quiz week 4	0	0	8.6	0	
HW 3B	Project 1	0	0	10	200	Beginning of week 5
EXAM 1A	Quiz 1	0	0	0	50	
Total Week 3		6	4	18.6	250	

Week 4

Type	Topic/Description	LEC Time	LAB Time	HW Time	Point Value	Due
LECA 4	System Administration Basics	5.5	0	0	0	
EXAM 4A	Quiz 2	0.5	0	0	50	
HW 4A	Reading chapter 8 (90 Pages) Evaluated by HW 4C - Assessment – Mid-Term Exam	0	0	9	0	
LAB 4A	System Administration Basics	0	4	0	0	
Total Week 4		6	4	9	50	

Week 5

Type	Topic/Description	LEC Time	LAB Time	HW Time	Point Value	Due
LEC 5A	Course Review and Discussions	5	0	0	0	

Type	Topic/Description	LEC Time	LAB Time	HW Time	Point Value	Due
LAB 5A	Writing and Running Scripts	0	4	0	0	End of week 5
HW 5A	Mid Term Review 1-6, & 8 (310 pages)	0	0	15.5	0	
EXAM 5A	Midterm	1	0	0	200	
Total Week 5		6	4	15.5	200	

Week 6

Type	Topic/Description	LEC Time	LAB Time	HW Time	Point Value	Due
LEC 6A	Program Design and Pseudo-code/Developing an Algorithm	6	0	0	0	
HW 6A	Reading chapter 10 (40 pages) Evaluated by HW 6C – Assessment – Quiz week 8	0	0	4	0	
LAB 6A	Program Design and Pseudo-code/Developing an Algorithm	0	4	0	0	
Total Week 6		6	4	4	100	

Week 7

Type	Topic/Description	LEC Time	LAB Time	HW Time	Point Value	Due
LEC 7A	Selection Control/Repetition Control structures	6	0	0	0	
LAB7A	Selection Control/Repetition Control structures	0	4	0	0	
HW 6A	Reading chapter 10 (40 pages) Evaluated by HW 6C – Assessment – Quiz week 8	0	0	4	0	
HW 7B	Project 2	0	0	20	200	End of week 9
Total Week 7		6	4	24	50	

Week 8

Type	Topic/Description	LEC Time	LAB Time	HW Time	Point Value	Due
LEC 8A	Remote Synchronization	1	0	0	0	
EXAM 8A	Quiz 3	1	0	0	50	
LAB 8A	Repetition Control/ Combining Structures	0	4	0	0	

LEC 8B	OpenSSH	4	0	0	0	
HW 8A	Reading chapter 16 & 17 (36 pages) Linux – Assessment – Quiz 4	0	0	3.6	0	
Total Week 8		6	4	3.6	50	

Week 9

Type	Topic/Description	LEC Time	LAB Time	HW Time	Point Value	Due
LEC 9A	Introduction to Python	3	0	0	0	
LAB 9A	Script Debugging	0	6	0	0	End of week 9
HW 9A	Reading chapter 12 (27 pages) –Assessment – Final Exam	0	0	2.7	0	
Exam 9A	Quiz 4	1			50	
Total Week 9		4	6	2.7	50	

Week 10

Type	Topic/Description	LEC Time	LAB Time	ELP Time	Point Value	Due
LEC 10A	Review Chapters 10, 14, 16 & 17	5	0	0	0	
LAB 10A	Project 2	0	4	0	0	
HW 10A	Final Review Chapters 1-6, 8, 10, & 14, 16 & 17 (468 pages)	0	0	23.4	0	
EXAM 10A	Final Exam	1	0	7	200	End of week 10
Total Week 10		6	4	30.4	200	

Course Hours Summary

Week	Topic	LEC Time	LAB Time	HW Time
1	LINUX Overview, Login, Using Directories and Files Shells and Editors	6	4	4.7
2	File Systems, Permissions and File Manipulation	6	4	7.5
3	System Information and Your Environment	6	4	18.6
4	System Administration Basics	6	4	9
5	Discussions /Script writing / Midterm	6	4	15.5
6	Program Design and Pseudo-code/Developing an Algorithm	6	4	4
7	Selection Control/Repetition Control structures	6	4	24
8	Repetition Control/ Combining Structures	6	4	3.6

9	Selection with Case Structures / Repetition Structure	6	4	2.7
10	Course review & Discussions / Testing & debugging project 8 / Final	6	4	30.4
Total		60	40	120

Table/Point Breakdown

Week	Assignment	Possible Points	Percent of Grade
3	Quiz 1	50	10%
4	Quiz 2 & Project 1	250	25%
5	Midterm	200	20%
8	Quiz 3	50	10%
9	Quiz 4 & Project 2	250	25%
10	Final	200	20%
Total		1000	100%

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Your Grades for this Course

Your final grade for this course will be based on an assessment by the Instructor of your performance on a number of course activities, which may include objective tests, classroom exercises, laboratory demonstrations, project papers, or other types of activities. The chart below indicates in what activities you will engage, how many possible points can be earned for each activity, and the percentage of your final grade that will be accounted for by each activity.

Students in this course should be graded following Coleman University assessment practices and policies. A point system is used in the University to indicate student performance on various required activities or projects. For this course, it is recommended that points be distributed as follows:

Coleman University Grade Assignment Policy:

Percent	Letter Grade	Grade Points
94-100	A	4
90-93	A-	3.67
87-89	B+	3.33
84-86	B	3
80-83	B-	2.67
77-79	C+	2.33
74-76	C	2
70-73	C-	1.67

67-69	D+	1.33
64-66	D	1
60-63	D-	0.67
N/A	INC	0
N/A	W	0
N/A	CR	0
59 or below	F	0
N/A	I	0
N/A	W	0
N/A	AU	0
N/A	TR	0
N/A	WV	0

Legend	
CR = Credit	NC = No Credit
I = Incomplete	W = Course Withdrawal
AU = Audit	TR = Transfer Credit
WV = Waiver	

Academic Accommodation / Adjustment Policy:

In accordance with Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act (ADA), Coleman University offers accommodations to students with documented physical, psychological, and/or cognitive disabilities. Coleman University will adhere to all applicable federal, state, and local laws, regulations, and guidelines with respect to providing reasonable accommodations as required to offer equal educational opportunities to qualified disabled individuals.

To qualify for an academic accommodation under ADA, the student must provide adequate documentation of a disability. Students seeking academic accommodations should contact the campus ADA Coordinator at 858-966-3953 or via email at ada@coleman.edu. The ADA Coordinator will review the documentation provided and verify ADA coverage. Students covered under ADA must meet with the ADA Coordinator at the beginning of every term to determine the appropriate academic accommodations. Failing to meet with the ADA Coordinator at the beginning of every term may impact the availability of accommodations.

After the academic accommodations have been determined, the students' instructors will be notified by the ADA Coordinator. If any problems or concerns regarding the provision of accommodations occur, the student must inform the ADA Coordinator. If the student feels accommodation is not being made appropriately, the student may follow the published Student Grievance Procedures.