COURSE PLAN

COMPUTER INFORMATION TECHNOLOGY

CIT132: LINUX / UNIX OPERATING SYSTEM

CONTENT

INSTRUCTOR'S DETAILS

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COURSE SCHEDULE

Day	Time	Room
Sat	1100 - 1200	104A
Sun	0900 - 1000	103A
Tue	0800 - 1000	003A

SYNOPSIS

This course provides intermediate level Linux/Unix Operating System concepts. It provides hands on experience for how to excel in using a various components of the operating system, including system components, built-in commands, file-management, editors, Linux shell and command lines, installation, configuration and maintenance of a Linux OS. It also includes creating script and batch files, and maintains system communications.

LEARNING OUTCOMES

After completing the course, students should be able to:

- Understand Linux software structure
- Define Linux Operating Systems functions
- summarize historical development of Linux/Unix
- Log on to the system
- Working with Shell
- Use the popular vi editor to edit text files
- Understand the concept of file and file structure in Linux
- Determine and set file permissions to implement file security
- Understand and perform basic file processing
- Creating and changing directories
- Learn about file sharing and linking
- Understand piping and redirecting of processes

COURSE OUTLINE

Chapter	Topics	Hrs
1	Overview of Operating Systems What is an operating sytem Operating system services Chracter versus Graphical User Interfaces Types of operating systems	2
2	Linux History Open Source Background Linux Torvalds LINUX distributions Kernel History Popularity of Linux Future developments	2
3	Getting Started Computer System Hardware LINUX Software Architecture Logging On and Off Correcting Command Line Typing Mistakes Important System Setups Some Useful Commands for the Beginners	8
4	LINUX Shells Various LINUX Shells Some Useful General-Purpose Commands Shell Meta characters	4
5	Editing Text Files Obtaining More Control Using the vi Editor Shell Script File How to start, Save a File and Exit Format of vi Command and Modes of operations Cursor movement and Editing Commands Yank and Put and Substitute Setting vi environment Executing Shell Command from within vi	4

Chapter	Topics	Hrs
6	Files and File System Structure The LINUX File Concept Types of Files File System Structure Navigating the File Structure File Representation and Storage in LINUX Standard Files and File Descriptors End of File (Eof) Marker	**8**
7	File Security Password Based Protection Encryption-Based Protection Protection Based on Access Permission Determining and Changing File Access Privileges Special Access Bits File Permissions and Types	**8**
8	Basic File Processing Viewing Contents of Text Files Copying, Moving, and Removing Files Appending to Files Combining to Files Comparing Files Removing Repeated Lines	**4**
10	File Sharing Duplicate Shared Files Common Login for Members of a Team Setting Appropriate Access Permissions on Shared Files Common Group for Members of a Team File Sharing via Links Searching for Symbolic Links	**4**
11	Redirecting and Piping Standard Files Input Redirection Output Redirection Combining Input and Output Redirection I/O Redirecting Standard Error Redirecting Standard Error Redirecting **stdout** and **stderr** in One Command Redirecting **stdin, stdout**, and **stderr** in One Command Redirecting Without Overwriting File Contents (Appending) LINUX Pipes Redirecting and Piping Combined Recap of I/O and Error Redirection	**8**
	TOTAL	**52**

WEEKLY PLAN

Dates	WK	CH	Topics	Assignments	Due Dates
Sep10	1		Introduction		
Sep17	2	**1** 2	Overview of Operating Systems Linux History	Assignment CA1*	CA1 due Sep21
Sep24	**3**	3	Computer System Hardware LINUX Software Architectur	Assign CA2	CA2 due Sep28
Oct01	**4**	3	Logging On and Off Correcting Command Line Typing Mistakes Important System Setups Some Useful Commands for the Beginners	**Forum F1** **Quiz Q1[ch1,2]**	
Oct08	**5**	**4**	Various LINUX Shells Some Useful General-Purpose Commands Shell Meta characters	Assignment LA1*	
Oct15	**6**	**5**	Obtaining More Control Using the vi Editor	**Quiz Q2[ch4]** **Review Exam-I**	LA1 due Oct19
Oct22	**7**	**6**	The LINUX File Concept Types of Files File System Structure	**Exam-I[Ch1-4]** Assign CA3	CA3 due Oct26
Oct29 **to** **Oct31**	**8**	**6**	Navigating the File Structure File Representation and Storage in LINUX Standard Files and File Descriptors End of File (Eof) Marker	**Quiz Q3[Ch5]** Assignment LA2	
11/1 – 11/11			**EID-UL-ADHA VACATION**		
Nov12	**9**	**7**	Introduction: File Security Password Based Protection Encryption-Based Protection Protection Based on Access Permission	**Quiz Q4[Ch6]**	LA2 due Nov16
Nov19	**10**	**7**	Determining and Changing File Access Privileges Special Access Bits File Permissions and Types	Assign CA3	CA3 due Nov23
Nov26	**11**	**8**	Introduction: Basic File Processing Viewing Contents of Text Files Copying, Moving, and Removing Files Appending to Files Combining to Files Comparing Files Removing Repeated Lines	 **Quiz Q5[Ch7]** **Exam-II[Ch5,6,7]**	**F1 due Nov30**
Dec03	**12** **13**	10	Introduction: File Sharing Duplicate Shared Files Common Login for Members of a Team Setting Appropriate Access Permissions on Shared Files Common Group for Members of a Team File Sharing via Links Searching for Symbolic Links	**Forum F2** Assignment CA4 Assignment LA3 **Quiz Q6[Ch8]**	CA4 due Dec07
Dec10		**11**	Introduction: Redirecting and Piping Standard Files Input Redirection Output Redirection Combining Input and Output Redirection I/O Redirecting Standard Error Redirecting Standard Error	 Assignment CA4	LA3 due Dec14 CA4 due Dec14

Dec17	**14**	**11**	Redirecting **stdout** and **stderr** in One Command Redirecting **stdin, stdout**, and **stderr** in One Command Redirecting Without Overwriting File Contents (Appending) LINUX Pipes Redirecting and Piping Combined Recap of I/O and Error Redirection	**Quiz Q7[Ch10,11]**	**F2 due Dec21**
Dec24	**15**	**REVIEW FOR FINAL**			

*CA→Class Assignment **LA→Lab Assignment

ASSESSMENT BREAKDOWN & POLICY

Students' assessments in this course are based on the following:

1) Carry Marks	
▪ ***Assignments***	***10%***
▪ ***Mid-Semester Examination***	***40%***
▪ ***Quizzes***	***10%***
▪ ***Forums***	***5%***
2) Final Examination	***35 %***
Total	***100 %***

Carry marks will be given before or on Week 7.

ATTENDANCE POLICY

Attendance is mandatory. Instructor is required to keep attendance records and report absences. Due to the interactive nature of this course, attendance is an essential part of the educational experience. JCC expects students to exercise good judgment regarding attendance. Students accept full responsibility for ensuring that work does not suffer from absence.

Punctuality is important. The instructor MAY NOT ALLOW student(s) to enter the classroom if he/she is a habitual latecomer.

- **Students with ZERO absence will be upgraded to the next grade, if passed.**
- Registration to a course and dropping procedure is a student's responsibility
- The proof of registration should be shown in the first class
- The students are expected to be in class from the beginning of class.
- Proof of valid reasons for absences will be verified by authority after receiving DN
- Those who come in the class within 10 minutes are considered LATE
- **After ten (10) minutes the students are marked absent**
- **After three weeks equivalent absence, a grade of "DN" (Denied) will be issued**
- It's responsibility of the student to keep the record of his absences.
- **Electronic devices must be turned off during all class and Lab times. Otherwise he may be asked to leave class and will be marked absent.**

STUDENT'S RESPONSIBILITY

- **Students accept full responsibility for ensuring that work does not suffer from absence.**
- **The devices in the Lab must not be used for any other activities and/or in any other ways than that which is explained by the instructor**
- **Students are required to bring pen, notebook, textbook, one flash memory (min 20 MB) in the class**
- **During tests no external devices are allowed.**

SPECIAL ACCOMMODATIONS

If there is any student in this class who has special needs because of learning disabilities or other disabilities, please discuss these needs with your instructor or please contact Course Coordinator.

REFERENCES

Main Reference

- **LINUX: THE TEXTBOOK** by Sarwar | Koretsky | Sarwar, **ISBN**: 0-201-72595-9

Additional Reference:

- **Introduction to UNIX /Linux by John Muster; ISBN# 0-07-222695-1**
- **Online resources http://emestest.kau.edu.sa**