CSC 251 - Operating Systems Lab Outlines

General Information

Course Number	**CSC-251L**
Credit Hours	1 (Theory Credit Hour = 0, Lab Credit Hour =1)
Prerequisite	None
Course Coordinator	Dr. Raheel Ahmed Memon

Course Objectives

The main objectives of the course are to give students the basic concepts of an operating system, types of an operating system, computer system structures, process management, CPU Scheduling, Process synchronization, Deadlock, Memory management and Virtual memory management. Furthermore the students will learn the operating system design algorithms often based on those used in existing commercial operating systems. Our aim is to present these concepts and algorithms in general setting that are not tied to one particular operating system.

Catalog Description

CSC-251 L

Course Content

Lab 01 - 02: Installation and Linux Commands

Lab 03 - 04: Script Programming of Shell

Lab 05: System Calls (Overview)

Lab 06: Kernel Module Programming (creating, inserting and removing modules)

Lab 07: Process (fork, sleep, getpid, getppid)

Lab 08: Implementation of CPU scheduling. a) Round Robin b) SJF c) FCFS d) Priority

Lab 09: Threads (Java, openmp, pthreads)

Lab 10: Pipes (Named Pipe, Pipe as std input and std output)

Lab 11: Synchronization in threads (Semaphore and Mutex)

Course Learning Outcomes

	Course Learning Outcomes (CLO)
1	Develop an understanding of minimum functionality of operating system

2	Understand the role of critical components like initialization, IVT, system call table, process manager, and file system in operating system

CLO-SO Map

	SO IDs											
CLO ID	**GA 1**	**GA 2**	**GA 3**	**GA 4**	**GA 5**	**GA 6**	**GA7**	**GA 8**	**GA 9**	**GA 10**	**GA 11**	**GA 12**
CLO 1	1	0	0	0	1	0	0	0	0	0	0	0
CLO 2	1	0	0	0	1	0	0	0	0	0	0	0

Approvals

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Updated By	Dr. Raheel Ahmed Memon
Approved By	Not Specified
Last Update	09/12/2020