

KING FAHD UNIVERSITY OF PETROLEUM AND MINERALS
Information & Computer Science Department

ICS 431 Operating Systems

Lab Syllabus - Term 072

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Office Hours: U M T 1:00pm – 2:00pm

STUDENTS LEARNING OUTCOMES

1. Describe OS support for processes and threads.
2. Recognize CPU Scheduling, synchronization, and deadlock.
3. Use C and Unix commands, and develop various system programs under Linux to make use of OS concepts related to process synchronization, shared memory, mailboxes, file systems, etc.

Lab Syllabus

Lab#	Week of	Lab Topic	Quizzes & Programming Assignment
1	16-Feb	Introduction to Unix OS	
2	23-Feb	Introduction to C language	
3	1- Mar	More about C language	
4	8- Mar	Process Creation and Execution. Part I	
5	15- Mar	Process Creation and Execution. Part II	
6	22- Mar	IPC: using Signal	
7	29- Mar	File IO and IPC: using pipe	
8	5- April	Thread Creation and Execution	
9	19-April	Thread synch. using mutexes and condition variable	
10	26-April	Semaphores	
11	3- May	Memory management	
12	10- May	Introduction to UML	
13	17- May	UML Continued	
14	24- May	Project Demo	

Grade Distribution

Activity	Points	Weight
Lab Work	20	5%
Quizzes (about 3 or 4)	40	10%
Projects (2 x 20 points)	40	10%
Total	100	25%

Lab Objective

The objective of the operating systems labs is to practically implement the major operating system issues discussed in the lectures. All the process, memory, file and directory management issues will be demonstrated under the UNIX/LINUX operating system. Also the UNIX commands will be discussed in brief.

Prerequisite

It is very essential for students to have some knowledge of the C language for this course, as all experiments will be written in C language.

Important Notes

- Cheating in whatever form can result in **F** grade.
- An official excuse must be shown in one week following return to classes.
- **No make-up of labs or Quizzes.**
- Your lab performance will be graded depending on how well you understood the problem and how correct your lab exercises are and how much effort you applied.
- You are encouraged to visit during office Hours for more help in study.
- Manage your time well and keep a record of all your programs and notes for further use.