**College of Computer and Information Sciences**

**Department of Computer Science**

**CSC 227 – Operating Systems**

**Spring 2019-2020**

**Catalog description**

This is an introductory course in Operating Systems. As such, it is intended to cover many of the concepts related to most of the actual Operating Systems. Although the study of a particular Operating System is out of the scope of this course, nevertheless, we will cover most of the concepts found in any existing Operating System. We will review computer system and operating system structures, processes and threads (concepts of, communication, synchronization and deadlocks), CPU Scheduling, memory management and virtual memory.

**Prerequisite**

### Data Structures (CSC 212)

**Prerequisite** **to**

CSC 329 Computer Networks, CSC328 Systems Programming, CSC453 Parallel Processing.

**Textbook**

#### Operating System Concepts, A. Silberschatz, P.B. Galvin, Ninth Edition, John Wiley & Sons Inc., ISBN 0-470-12872-0

**Course Objectives:**

### The objective s of the course is to provide the concepts of operating systems design and implementation. It identifies and describes the major and common components of an operating system with stating their functions and purposes especially process management (process scheduling, and synchronization), and memory management (segmentation, paging, and swapping).

**Topics Covered**

1 - Introduction to Operating Systems and computer systems

2 - Operating Systems Structure

3 - Processes

4 - Threads

5 - Process Scheduling

6 - Process Synchronization

7- Main Memory

8- Virtual memory

**Evaluations**

* Midterm Exam1 (20%)
* Midterm Exam2 (20%)
* Project and assignments (20%)
* Final Exam (40%)

**Course policies**

* Student will be denied from entering the final exam if he exceeds 25% absence rate.
* No late assignment is accepted.
* Your answers or programs will NOT be judged only by the final results/conclusions. Scores you receive will be based on the correctness of ALL parts of the answers or internal routines of the programs which are not displayed to the output. So in some cases, points are taken off if an answer contains an incorrect statement, even though its final conclusion or output is correct.
* Plagiarism/Cheating and Incompletes: Please, see the King Saud University policies on plagiarism and incompletes.