



Al-Imam Muhammad Ibn Saud Islamic University
College of Computer and Information Sciences

Course Syllabus [Operating Systems]

<i>Course Code</i>	<i>Course Name.</i>	<i>Credit Hours</i>	<i>Lec.</i>	<i>Lab</i>	<i>Prerequisites</i>
<i>IT 360</i>	<i>Operating Systems</i>	<i>4</i>	<i>3</i>	<i>2</i>	<i>CS 220, CS 242</i>

Course Description:

This course is about the basics of computer operating systems, including configuration, file systems, security, administration, interfacing, multitasking, and performance analysis. Parallelism or concurrency aspects are explained using concepts of process management, synchronization, deadlocks, job and process scheduling.

Course Topics:

Week	Tentative Schedule
Week 01	Overview & Operating system principles.
Week 02	Concurrency & Scheduling and dispatch.
Week 03	Concurrency & Scheduling and dispatch.
Week 04	Memory management. + assignment
Week 05	Device management.
Week 06	Security and protection [First Exam]
Week 07	File systems + Mid-term exam
Week 08	File systems
Week 09	Real-time systems
Week 10	Embedded systems [Second Exam]
Week 11	Fault tolerance
Week 12	Scripting + Mid-term exam
Week 13	Virtualization
Week 14	Virtualization
Week 15	
Week 16	[Final Exam]

Textbook and Resources:

Main Textbook:

- Operating System Concepts, Silberschatz, Galvin, and Gagne, 9th edition, Wiley, 2012.
- Operating Systems Internals and Design Principles - 8th Edition by William Stallings Prentice-Hall Inc., 2014, ISBN-13: 978-0133805918 ISBN-10: 0133805913 Edition: 8th

Other Resources

- Modern Operating Systems, Tanenbaum, 4th edition, Prentice Hall, 2014.
- Operating Systems: Internals and Design Principles, Sallings, 7th edition, Pearson/prentice Hall, 2011.

Project and Assignments

- At least one project will be assigned to the students. This project will involve the usage of shell scripting for daily tasks automation and/or to simulate a few CPU scheduling policies.

Grade Distribution

Quizzes	10 %
Midterm Exam	20 %
Assignments	10 %
Lab contribution and Exams	20 %
Final Exam	40 %