

# Arab Academy for Science, Technology, & Maritime Transport

## College of Computing and Information Technology

### CS322 – CC418

## Operating Systems

Fall 2013

3 Credit Hours

**Instructor: Dr. Ayman Abdel-Hamid**

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Office hours: by appointment (Tentative)

**Text**

William Stallings, [Operating Systems: Internals and Design Principles, 7<sup>th</sup> Edition](#), Prentice Hall, 2012 (Published Feb. 28<sup>th</sup> 2011)

**Course Objective**

The course is an introduction to modern operating systems. Upon successful completion of the course, the student should acquire ample knowledge about the concepts, structure, design principles, implementation issues, and mechanisms of operating systems. Hands-on experience will be gained through a lab component and programming assignments. Furthermore, where appropriate, Windows and Unix/Linux will be presented as case studies of operating systems

**Course Workload**

Course material will be introduced in lectures. Exams, which test your acquired knowledge, will be scheduled during lecture time unless otherwise stated. Furthermore, exercises/questions will be assigned as homework in tutorial sessions. Moreover, a lab component will present hands-on knowledge about the Linux operating system. Some programming assignments are planned as part of the practical aspect of the course. In addition, basic OS development skills are acquired through experiences with a skeleton OS ([Pintos](#)).

**Topics**

Tentatively, the topics that will be covered include:

- Computer System Overview
- Operating System Overview
- Process Description and Control
- Threads
- Concurrency: Mutual Exclusion and Synchronization
- Concurrency: Deadlock and Starvation
- Memory Management
- Virtual Memory
- Uniprocessor Scheduling
- I/O Management and Disk Scheduling
- File Management

## Grading

7 <sup>th</sup> week	7 <sup>th</sup> week exam + quizzes + tutorial work (30)
12 <sup>th</sup> week	12 <sup>th</sup> week exam (15) + (5) quizzes + tutorial work
Lab (attendance, open lab, closed lab, and exams)	10
Comprehensive Final Exam	40

The instructor reserves the right to change the grading scheme or add assignments/projects/exams.

## Policies

- Attendance is crucial to your success in this course. You have the responsibility to cover any missed material.
- Missed exams cannot be made up, without proper documentation.

## Academic Honesty

The honor code applies to all homework/assignments and examinations. The instructor's academic honesty policy is very strict; instances of academic dishonesty will be severely penalized. *All work submitted must be the student's own work!* It is unprofessional and dishonest to submit someone else's work as your own.