



كلية الحاسبات و المعلومات



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وحدة الضمان والجودة

Operating Systems Course Specifications

Faculty: Computer and Informatics

Department: Information Systems

Program(s) on which the course is given : Bachelor in Computer and Information Sciences

Major or Minor element of programs : Computer Science/ Information Systems

Department offering the program : Information Systems

Department offering the course : Computer Science

Academic year / Level : 3rd Year/BSc

Date of specification approval :

Basic Information

Title: Operating Systems **Code:** CSW355

Lecture: 3 hrs/week **Practical:** 2 hrs/week **Tutorial:** ---

Total: 5 hrs/week

Professional Information

1. Overall Aims of Course:

To teach the concepts and mechanisms employed in modern operating systems, including the



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use of concurrent processing. To provide students with experience of programming using an OS application programming interface. To provide a foundation for further study in distributed systems.

2. Intended Learning Outcomes of Course (ILOs):

a. Knowledge & understanding:

- a1- Explain and illustrate operating systems structure & components
- a2- Explain Inter-process communication
- a3- Give an account on multithreading & concurrency
- a4- Explain application programming interfaces
- a5- Summarize OS case studies

b. Intellectual skills:

- b1. Criticize OS design alternatives
- b2. Employ appropriate OS API services

c. Practical skills:

- c1. Handle C programs that use the UNIX/LINUX API
- c2. Handle programs that communicate via IPC
- c3. Handle and inject multithreaded programs



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c4. Design multithreaded

&

concurrent programs

d. Transferable skills:

d1. Present solutions for problems

d2. Evaluate and discuss alternatives

3. Contents:

Topic	No. of hours	Lecture	Tutorial/ Practical
Introduction	5	3	2
Computer-System Structure	5	3	2
Operating-System Structure	10	6	4
Processes	10	6	4
Threads	10	6	4
CPU Scheduling	10	6	4
Processes Synchronization	10	6	4
Deadlocks	10	6	4