FUTURE UNIVERSITY IN EGYPT
جامعة المستقبل

Faculty of Computers & Information Technology

Operating systems -1

Information :

Course Code :	CS231	**Level :**	Undergraduate	**Course Hours :**	3.00- Hours
Department :	Faculty of Computers & Information Technology				

Area Of Study :

Define knowledge that enhances skills in fundamental area of operating systems.
Use and adopt fundamental of memory management, including virtual memory management.
Solve problems of deadlock using mathematical knowledge.
Use all available principles and tools of process scheduling and evaluation process synchronization and system files.

Description :

This course provides an overview of operating system concepts. It provides a comprehensive survey of operating system concepts, operating system structure, process and thread concepts, CPU scheduling techniques, Deadlock, Synchronization, memory management methods. Also, it provides a comparative discussion to file systems

Course outcomes :

a.Knowledge and Understanding: :	
1 -	Define the fundamental concepts of operating systems.
2 -	Describe methodologies, practices and tools used in operating systems
3 -	Identify the up to date technologies used to support operating systems.
b.Intellectual Skills: :	
1 -	Illustrate design a solution for operating systems problems considering limitations and constrains.
2 -	Select appropriate methodologies and techniques for a given problem solution and setting out their limitations, restrictions and errors.
3 -	Compare and differentiate between methods and techniques used in operating systems.
c.Professional and Practical Skills: :	
1 -	Run computer operating systems in different physical environment.
2 -	Evaluate the risks and safety aspects related to computer operating systems.
3 -	Apply operating systems programming languages different supporting tools.
d.General and Transferable Skills: :	
1 -	Exploit a range of learning resources.
2 -	Apply quantitative methods and skills in understanding operating systems.

Course Topic And Contents :

Topic	No. of hours	Lecture	Tutorial / Practical
Operating System Overview	4	2	2
Computer System Organization and Structure	4	2	2
Memory and data storage structure	4	2	2
Operating System Structure , System Calls	4	2	2
Process Concept	4	2	2
CPU Scheduling	4	2	2
Deadlocks (system model, characterization)	4	2	2
Deadlock prevention – safe state – deadlock detection	4	2	2
Mid Term Exam	2		
Memory Management	4	2	2
Thread concepts	4	2	2
Synchronization	4	2	2
File System	4	2	2
Final Exam	2		

Teaching And Learning Methodologies :

- Interactive Lectures including discussion
- Practical Lab Sessions
- Self-Study (Project / Reading Materials / Online Material / Presentations)

Course Assessment :

Methods of assessment	Relative weight %	Week No	Assess What
Final Exam	40.00	14	
Midterm Exam (s)	20.00	9	
Others (Attendance)	10.00		
Practical Exam	10.00		
Quizzes	10.00	5	
Research and Reporting	10.00		

Course Notes :

Course Notes are available with all the slides used in lectures in electronic form on Learning Management System (Moodle)

Web Sites :
www.ekb.eg