The Republic of Iraq
Ministry of Higher Education and Scientific Research
Scientific Supervision and Evaluation Authority

University: Shatt Al-Arab University
College: Science College
Department: Computer Science Department
The Fourth stage
Name of the lecturers: Dr. Ali K. Mattar.
Scientific title: Teature
Academic qualification: Ph.D
Place of work: Shatt Al-Arab University

Course Weekly Outline

Course Lecturer	**Dr. Ali K. Mattar**			
e-mail	**alikmattar@sa-uc.edu.iq**			
Title	**Operating system**			
Course Coordinator	**annual**			
Course Objective	**To describe the basic organization of computer systems** **To provide a grand tour of the major components of operating systems** **To give an overview of the many types of computing environments** **To explore several open-source operating systems**			
Course Description	**What Operating Systems Do** **Computer-System Organization** **Computer-System Architecture** **Operating-System Structure** **Operating-System Operations** **Process Management** **Memory Management** **Storage Management** **Protection and Security** **Kernel Data Structures** **Computing Environments**			
Textbook	**Operating System Concepts 8th Edition**			
References	**Operating System Principles Paperback – January 1, 2004**			
final exam 60	**project**	**daily exams**	**lab**	**Semester daily exams**
	-	**3**	**5**	**12**
General Notes				

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University: Shatt Al-Arab University College
College: Shatt Al-Arab University College
Department: Department of Computer Science
The second stage
Name of the lecturers: Asst.prof. Dr. Mazin Abdulelah Alawan
..Scientific title: Asst.prof

weekly lesson schedule

Week	Date	Topics Covered	Number of Hours	Notes
1	2-10-2024	Operating System definition + Computer System Structure +Computer Startup	2	
2	9-10-2024	Common Functions of Interrupts +Interrupt Handling + I/O Structure +Storage Structure	2	
3	16-10-2024	Storage-Device Hierarchy + Direct Memory Access Structure	2	
4	23-10-2024	Operating System Services + User Operating System Interface	2	
5	30-11-2024	System Calls + Types of System Calls	2	
6	7-11-2024	Operating System Structure + Operating system early (simple-monolithic) structure + Operating system Layered Approach structure	2	
7	14-11-2024	Operating system Microkernel structure + Operating system Modules structure + operating system Virtual Machines structure	2	
8	21-11-2024	Process Concept + Process in Memory + Process State	2	
9	28-12-2024	Process Control Block (PCB) + CPU Switch From Process to Process + Context Switch	2	
10	4-12-2024	Process Scheduling + Representation of Process Scheduling + Process Creation	2	
11	11-12-2024	Process Termination + Cooperating Processes	2	
12	18-12-2024	Producer-Consumer Problem +	2	
13		Threads	2	

	25-12-2024			
14	**2-1-2025**	single thread	**2**	
15	**28-2-2025**	Multi-threaded applications	**2**	
16	**7-3-2025**	Multithreading Models	**2**	
17	**14-3-2025**	•1-First- Come, First-Served (FCFS) Scheduling	**2**	
18	**21-3-2025**	•2-Shortest-Job-First (SJF) Scheduling	**2**	
19	**28-3-2025**	•Non-Preemptive SJF + Preemptive SJF	**2**	
20	**3-4-2025**	•Round Robin (RR)	**2**	
21	**10-4-2025**	Deadlocks + Deadlock Characterization + Methods for Handling Deadlocks	**2**	
22	**17-4-2025**	Deadlock Prevention + Deadlock Avoidance	**2**	
23	**24-4-2025**	Deadlock Detection + Recovery from Deadlock	**2**	
24	**1-5-2025**	Swapping + Contiguous Memory Allocation	**2**	
25	**8-5-2025**	Segmentation + Paging	**2**	
26	**17-5-2025**	nStructure of the Page Table	**2**	
27	**24-5-2025**	Base and Limit Registers + Hardware Address Protection	**2**	
28	**31-5-2025**	nOverview of Mass Storage Structure + Disk Structure + Disk Attachment	**2**	
29	**7-6-2025**	Disk Scheduling + Disk Management	**2**	
30	**13-6-2025**	Swap-Space Management + RAID Structure + Stable-Storage Implementation	**2**	

Lecturer signature **Head of Department Signature**