

SESSION PLAN

*Lecture / Tutorial / Laboratory / Workshop

(* DELETE AS APPROPRIATE)

Course Particulars	
#:AE- S317	Title: New Trends(Operating system)

	Session Particulars	
#:1	Title: Background	Hrs: 2

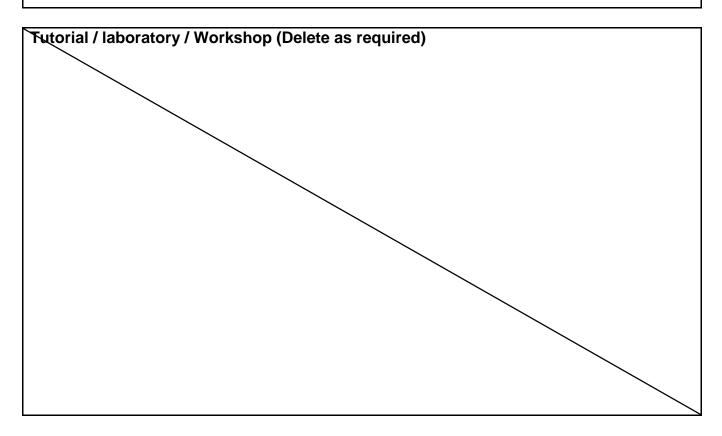
Learning Outcomes / Abilities Gained*		
#	Outcome Description	
1	Computer architecture evolution	
2	Digital VS analog representation	
3	Basic elements of computers	
4	I/O communication Techniques	
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Prepared by

Designation Name Ms.Lamiaa Mostafa Sign Date 15/8/2010 Approved by
Designation
Name Dr.Walid Abdelmoez
Sign

Date 15/8/2010

Lecture Source Material: Operating systems ,Internals and Design Principles – William Stallings, ,5thEdition Supplementary Material: Projector, white board. Educational Resources: Handouts, presentations, assignments.



2 of 2



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Course Particulars	
#:AE- S317	Title: New Trends(Operating system)

Session Particulars		
#:2	Title: computer system overview	Hrs: 2

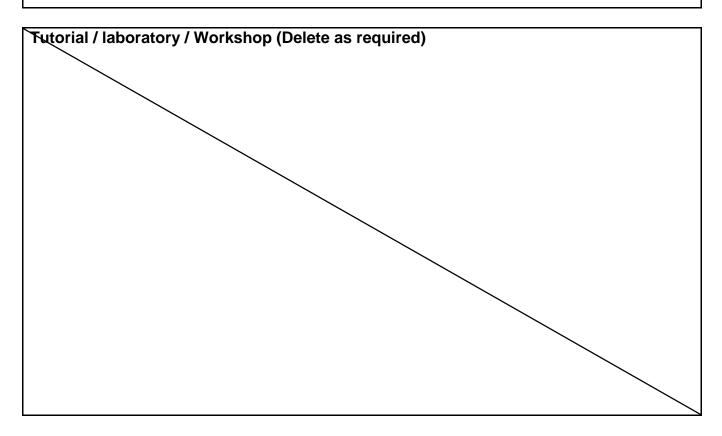
LEARNING OUTCOMES / ABILITIES GAINED*		
#	Outcome Description	
1	Processor registers	
2	Instruction execution	
3	interrupts	
4	The memory hierarchy	
5	Cache memory	
6	Exceptions	
7	Supervisor calls - software interrupts	
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#:AE- S317	Title: New Trends(Operating System)

	Session Particulars	
#:3	Title: Operating System Overview	Hrs: 2

	Learning Outcomes / Abilities Gained*
#	Outcome Description
1	Operating system objectives and functions
2	The evolution of operating systems
3	Major achievements
4	Characteristics of modern operating systems
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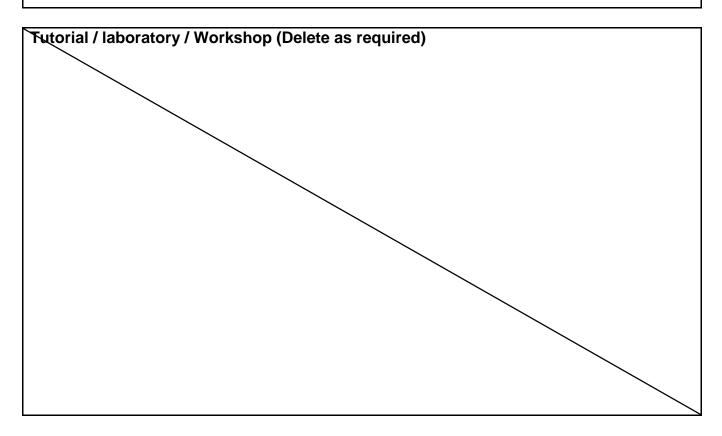
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#:AE- S317	Title: New Trends (Operating system	

	Session Particulars	
#:4	Title:Process Description	Hrs: 2

LEARNING OUTCOMES / ABILITIES GAINED*		
#	Outcome Description	
1	Process states	
2	Process description	
3	Process VS Program	
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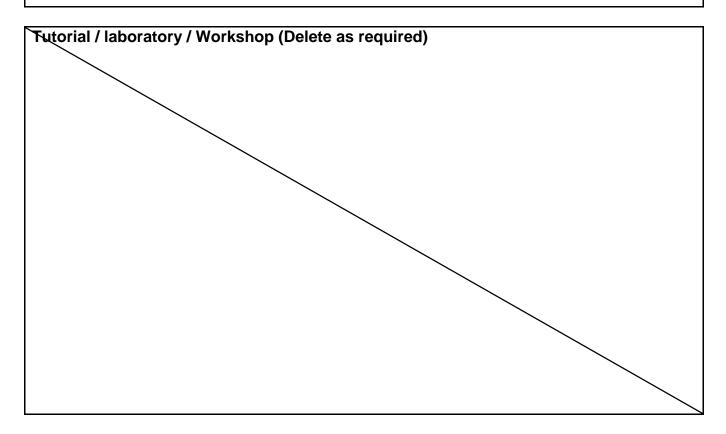
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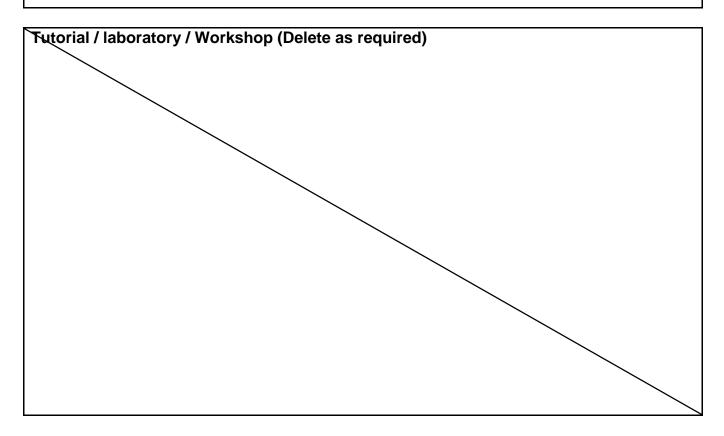
	Session Particulars	
#:5	Title: Process control and context switching mechanisms	Hrs: 2

	Learning Outcomes / Abilities Gained*
#	Outcome Description
1	Process control
2	Process Creation
3	Process Termination
4	PCB
5	CPU VS I/O bound processes
6	Context switching description and mechanisms
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Course Particulars		
#:AE- S317	Title New Trends(Operating system)	

	Session Particulars	
#:6	Title: Schedulers ,Threads,mutiprocessing	Hrs: 2

	Learning Outcomes / Abilities Gained*
#	Outcome Description
1	Short term scheduler
2	Medium Term schedule
3	Long Term Scheduler
4	Scheduling techniques
5	State transitions
6	Threads Vs Process
7	User lever Threads VS Kernel lever Threads
8	Multiprocessing description
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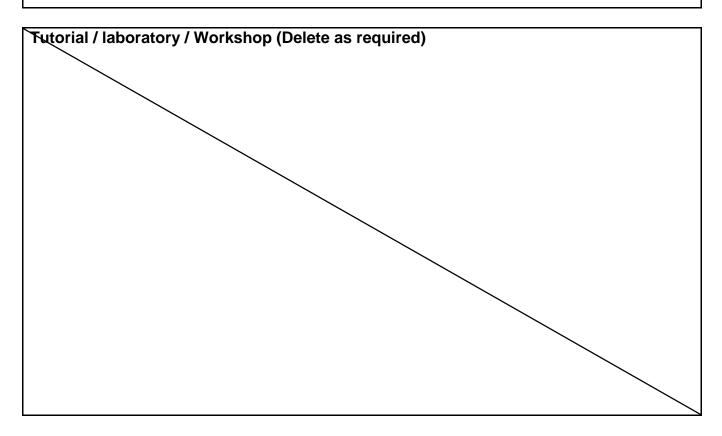
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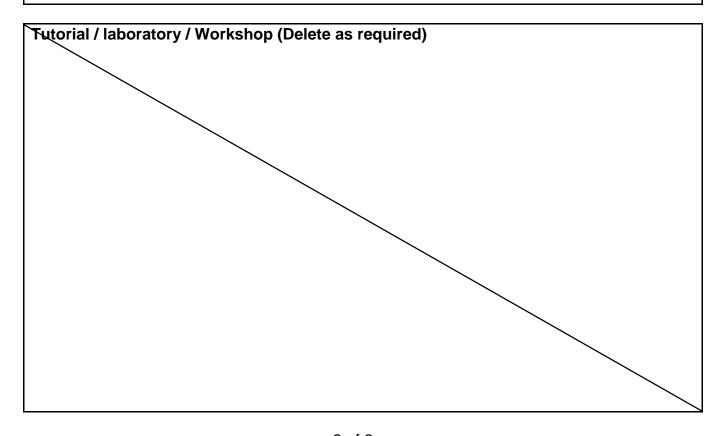
		Session Particulars	
#:7	Title: Midterm Exam		Hrs: 2

	LEARNING OUTCOMES / ABILITIES GAINED*
#	Outcome Description
1	Exam
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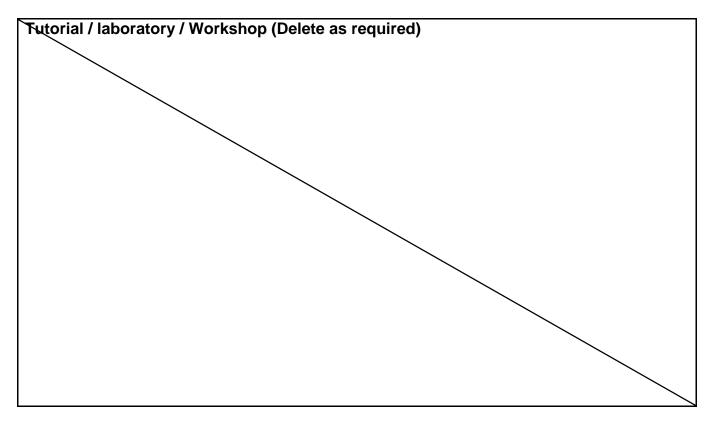
	Session Particulars	
#:8	Title: Concurrency and mutual exclusion	Hrs: 2

Learning Outcomes / Abilities Gained*		
#	Outcome Description	
1	Principles of concurrency	
2	Process Interaction	
3	Mutual exclusion: software approaches	
4	IPC and RPC	
5	Critical section problem	
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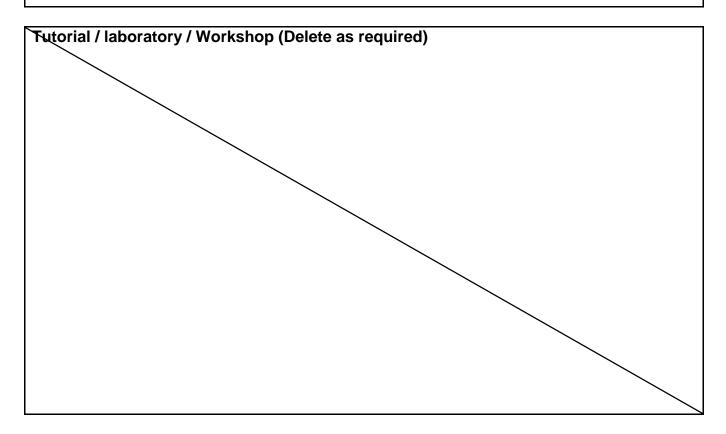
	Session Particulars	
#:9	Title: Messaging and synchronization	Hrs: 2

LEARNING OUTCOMES / ABILITIES GAINED*	
#	Outcome Description
1	Message passing
2	Messaging protocols
3	Synchronization
4	Producer/Consumer problem
5	Readers / writers problem
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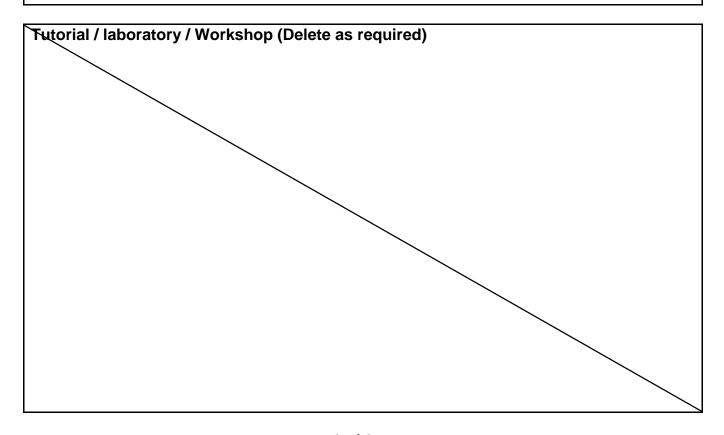
	Session Particulars	
#:10	Title: Concurrency deadlock and starvation	Hrs: 2

	Learning Outcomes / Abilities Gained*
#	Outcome Description
1	Principles of Deadlock
2	Conditions for deadlock
3	RAG
4	The Dining Philosophers Problem
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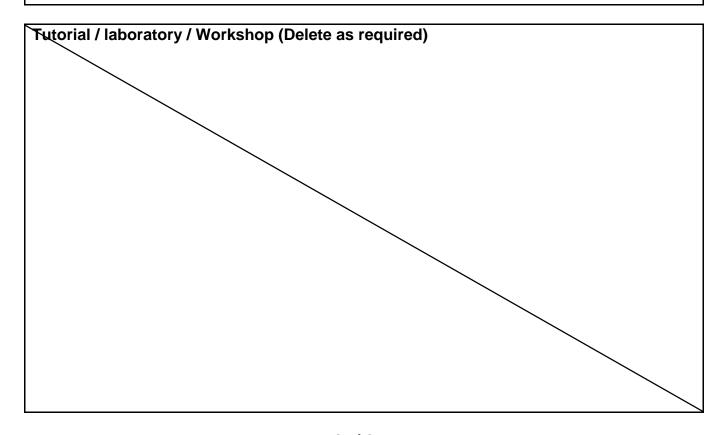
	Session Particulars	
#:11	Title: Deadlock prevention and deadlock detection	Hrs: 2

LEARNING OUTCOMES / ABILITIES GAINED*		
#	Outcome Description	
1	Deadlock Prevention	
2	Deadlock Avoidance	
3	Banker Algorithm	
4	Deadlock Detection	
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#:AE- S317	Title:New Trends (Operating System)	

	Session Particulars	
#:12	Title: Deadlock prevention and Deadlock Detection Contd.	Hrs: 2

	LEARNING OUTCOMES / ABILITIES GAINED*
#	Outcome Description
1	Deadlock prevention and Deadlock Detection Contd.
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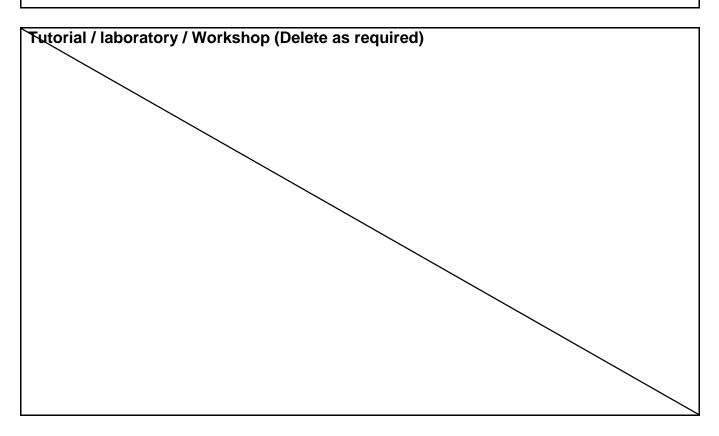
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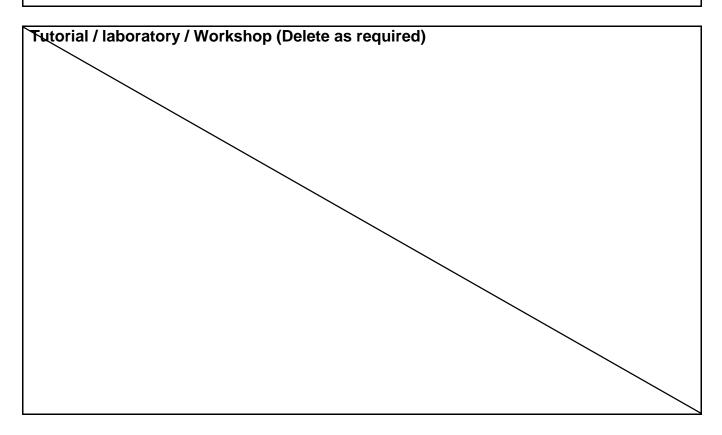
	Session Particulars	
#:13	Title: Memory Management and organization	Hrs: 2

	LEARNING OUTCOMES / ABILITIES GAINED*
#	Outcome Description
1	Memory management requirements
2	Operating system software
3	Real storage VS Virtual storage
4	The Fetching Problem
5	The Placement Problem
6	The replacement problem
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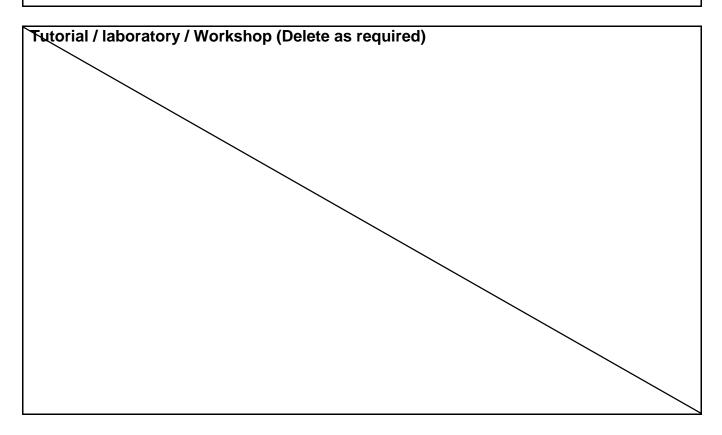
	Session Particulars	
#:14	Title: Memory Management Techniques	Hrs: 2

	LEARNING OUTCOMES / ABILITIES GAINED*
#	Outcome Description
1	User's memory request versus usage
2	The basic blocking architectures
3	Paging organization
4	Segmentation organization
5	Hybrid organization
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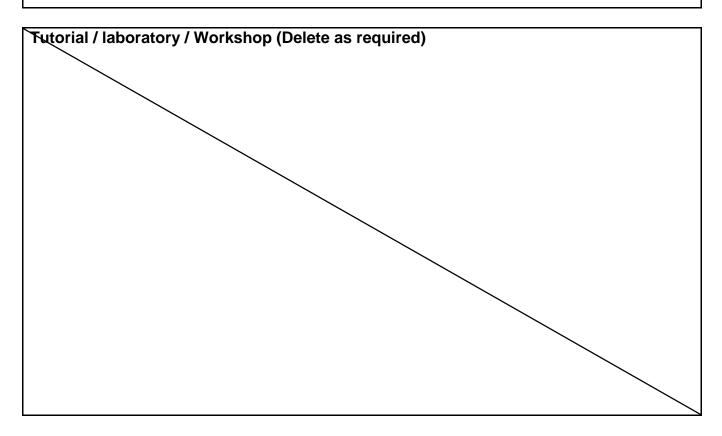
Session Particulars		
#:15	Title: Memory contd.: Paging and Revision.	Hrs: 2

	Learning Outcomes / Abilities Gained*
#	Outcome Description
1	Logical VS Physical address
2	Paging technique
3	Frame description
4	Revision
5	Post allocation
6	Memory Security and sharing
7	Revision
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Course Particulars	
#:AE- S317	Title: New Trends (Operating System)

Session Particulars		
#: 16	Title: Final Exam	Hrs: 2

Learning Outcomes / Abilities Gained*		
#	Outcome Description	
1	Exam	
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