



Course Specification

Course title: Operating Systems

Code: CS 405

Program(s) on which the course is given: Mathematics & Computer Science

Major or minor element of program: Major

Department offering the program: Mathematics & computer Science

Department offering the course: Mathematics & computer Science

Academic year/ Level: Fourth year/second Semester

Date of specification approval:.... /.... /

1- Basic information			
Academic year: Fourth		Course Title: Operating Systems	
		Code: CS 405	
Lecture		Practical: 3	Tutorial: 3 hour/week
		Total: 6 hours /week	
2- Professional Information			
1- Overall aims, of course		For students undertaking this course, the aims are to: <ul style="list-style-type: none"> • Know fundamental concepts of operating systems. • Understand process management. • Understand memory management. • Understand file system management. • Understand I/O management. • Understand basics of protection and security. • Has some programming experience with the UNIX operating system. • Enhance self-learning capability of computer systems. 	
3- Intended learning outcomes, of course (ILOs)			
a. Knowledge and Understanding		On completing this course, students will be able to: <ol style="list-style-type: none"> a1. Describe the principle of the computer system and its component. a2. Recognize the concepts used by computer and how they work. a3. Identify the different type of memories, processors and mother boards. a4. Identify the protocols of processors and mother board and how the work together. 	
b. Intellectual Skills		On completing this course, students will be able to: <ol style="list-style-type: none"> b1. Develop lines of argument and appropriate judgments in accordance with scientific theories and concepts. b2. Evaluate the quality of a given system by testing its 	



	processor and memory.
c. Professional, and Practical Skills	On completing this course, students will be able to: c1. Apply the different methods used in producing a system. c2. try to find a more convenient method for developing system. c3. design a digital circuits for motherboard.
d. General and Transferable Skills	On completing this course, students will be able to: d1. Test the circuits for best results. d2. Employ various mathematical and computational skills when appropriate.
4. Contents	
1. Introduction to operating systems. 2. Operating system functions. 3. Types of operating systems 4. Main component of operating system. 5. Memory management. 6. CPU management, 7. Input /output management. 8. File management. 9. Application interface 10. User interface 11. System programs (compiler, editor, interpreter, etc...) 12. Virtual devices. 13. Distributed systems	
5- Teaching and learning methods	1- Lectures 2-Tutorial 3- Discussion
6- Student assessment	
a- Methods	1- Oral Exam. to assess a1-a4, b1-b2, d1-d2 2- Final Exam to assess a1-a4, b1-b2, c1-c3 3- Activities Of The Academic Year to assess a1-a4, b1-b2, c1-c3
b-Assessment schedule	1- Oral Exam week 16 2- Final Exam week 16 3- Activities Of The Academic Year week 7
c-Weighting of assessments	-Activities Of The Academic Year 14 - Final-Term Examination 80 - Oral Examination 6 - Practical Examination 50 Total 150%
7- List of references	
a-Course Note	
b-Recommended Text Book	- silberschatz, A., Galvin, P. &Gange, G., Applied Operating System concepts, First edition, New York: John Wiley & Sonces, Inc., 2000.



	- gray J. Nutt, Operating Systems, Third edition, Pearson / Addison Wesley, 2003. Operating System Concepts , <i>Eight Edition</i> , Avi Silberschatz Peter Baer Galvin ,Greg Gagne 2011
c- Additional References	
d. Periodical journals, Web sites, etc.	

Course Map (Content of Course with ILO's of Course)



Aim of course	Content Of Course	week	Knowledge & Understanding	Intellectual Skills	Professional & Practical Skills	General skills	Teaching and Learning Methods	Assessment Methods	Teaching and Learning activity	Evidences
<ul style="list-style-type: none"> Know fundamental concepts of operating systems. Understand process management. Understand memory management. Understand file system management. Understand I/O management. Understand basics of protection and security. Has some programming experience with the UNIX operating system. Enhance self-learning capability of computer systems 	1. Introduction to operating systems.	1	a1,a2,a3				-Lectures - Assignments and exercises . Discussion	Oral Exam (9 marks) - Activities Of The Academic Year (21 marks) - Final term written Exam (120 marks).	using white board and data show. - Computer lab Discussion. - Presentation	Department course notes. - Library books. - Student semester work. - Exam papers. - Sheets.
	2. Operating system functions.	1	a2,a3	b1	c2	d1				
	3. Types of operating systems	2	a3		c1,c3					
	4. Main component of operating	2	a4	b2	c3	d2				
	5. Memory management.	3		b1	c1,c2	d1				
	6. CPU management,	3	a3,a4	b2	c3	d2				
	7. Input /output management.	4	a1,a2		c1	d1,d2				
	8. File management.	5	a4	b1		d1,d2				
	9. Application interface	6			c1	d1,d2				
	10. User interface	7		b2		d1,d2				
	11. System programs (compiler, editor, interpreter, etc...)	8-10	a4	b1,b2	c3	d1				
	12. Virtual devices.	11	a3	b2		d1				
	13. Distributed systems	12		b1	c2	d1,d2				



Matrix to measure ILO's of course with ILO's of Program

ILO's of Course	ILO's of Program
Knowledge and Understanding	
a1	A3, A5
a2	
a3	
a4	
Intellectual Skills	
b1	B6
b2	
Professional and Practical Skills	
c1	C1, C3, C9
c2	
c3	
General and Transferable Skills	
d1	D4, D6
d2	

Course coordinator: Name: Prof. Dr. Afaf Abd El-Ader

Head of Department of Name: Prof.Dr/ Hode Abeldaim