Mansoura University

Faculty of Computers and Information Sciences

Course Specifications of

Operating Systems-2 – CS327P

University: Mansoura University **Faculty**: Computer and Information Sciences

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Program on which the course is given: Department of Computer Science- Third year

Department offering the course: Department of Computer Science

Academic year/ Level: Third Year

Date of specification approval:

A- Basic Information

Title : Operating Systems-2 **Code :** CS327P

Credit Hours : 3 **Lecture :** 1 **Tutorial :** **Practical :**

B- Professional Information

1- Overall Aims of the Course

This course aims to:

- Formalizes students with general understanding of structure of modern computers.
- Allow students to study structure and functions of operating systems - Allow students to learn how to make a secure computer system.

2- Intended Learning Outcomes of the course (ILOs)

By completing this course successfully, the student will be able to:

a- Knowledge and Understanding

a1. Essential facts, concepts, principles and theories relating to computing and information and computer applications as appropriate to the program of study.

a2. Modeling and design of computer-based systems bearing in mind the trade-offs.

a3. Tools, practices and methodologies used in the specification, design, implementation and evaluation of computer software systems.

a4. Criteria and specifications appropriate to specific problems, and plan strategies for their solution.

a5. Essential facts, concepts, principles and theories relating to computing and information and computer applications as appropriate to the program of study.

a6. The current and underlying technologies that support computer processing and inter-computer communication.

a10. Current developments in computing and information research.

a11. Requirements, practical constraints and computer-based systems..

a13. Use high-level programming languages.

a18. Understand the fundamental topics in Computer Science, including hardware and software architectures, software engineering principles and methodologies, operating systems, compilers, parallel and distributed computing, systems and software tools.

a19. Select advanced topics to provide a deeper understanding of some aspects of the subject, such as hardware systems design, objectoriented analysis and design, and artificial intelligence, and parallel and concurrent computing

b- Intellectual Skills

b1. Analyze computing problems and provide solutions related to the design and construction of computing systems.

b2. Realize the concepts, principles, theories and practices behind computing and information as an academic discipline.

b4. Analyze, propose and evaluate alternative computer systems and processes taking into account limitations, and quality constraints.

b7. Achieve judgments considering balanced costs, benefits, safety, quality, reliability, and environmental impact.

b11. Perform comparisons between (algorithms, methods, techniques...etc). **c- Professional and Practical Skills** c1. Operate computing equipment, recognizing its logical and physical properties, capabilities and limitations.

General and Transferable Skills d1. Demonstrate the ability to make use of a range of learning resources and to manage one's own learning. d2 Demonstrate skills in group working, team management, time management and organizational skills.

3- Contents

No	Course Content	Lecture	Tutorial	Total
1	Revision to the fundamental concepts of Operating system (process, thread, scheduling,…)	**2**	**2**	**4**
2	DeadLock concept	**2**	**2**	**4**
3	DeadLock problems	**2**	**2**	**4**
4	I/O Systems	**2**	**2**	**4**
5	Protection	**2**	**2**	**4**
6	Security	**2**	**2**	**4**
7	Virtual Machine	**4**	**4**	**8**
8	Real Time Systems	**2**	**2**	**4**
9	Distributed System	**2**	**2**	**4**
10	Operating System in Multi-core Structure	**4**	**4**	**8**
	Total Hours	**24**	**24**	**48**

4- Assessment Schedule

Assessment Method	No.	Description	Week No.	Weight (%)
Assignment	1	Home work no. 1	3	10
Written Exams	2	Midterm Exam	7	10
Assignment	3	Home work no. 2	8	10
Oral Exam	4	Oral questions	10	10

Written Exams	5	Final Exam	14	60
Total				100

5- List of references

5.1 Course Notes

- Lecture handouts delivered to students at the end of each lecture. **5.2 Essential Books (Text Books)**

- SILBERSCHATZ A., GALVIN P.B. and GAGNE G., "OPERATING SYSTEM CONCEPTS ", ninth edition, JOHN WILEY & SONS, INC, 2012.

6- Facilities Required for Teaching and Learning -

Data show.

Course Content/ILO Matrix

Course Content	a1	a2	a3	a4	a5	a6	a10	a11	a13	a18	a19	b1	b2	b4	b7	b11	c1	d1	d2
Revision to the fundamental concepts of Operating System-1	•	•	•		•	•	•		•	•	•	•		•	•		•		•
DeadLock	•	•	•	•			•	•	•	•	•		•	•		•	•	•	•
I/O Systems	•		•	•	•	•						•	•		•	•	•		
Protection & Security	•	•		•	•			•	•	•		•		•			•	•	•
Virtual Machine	•		•		•					•	•	•	•	•		•			
Muli-core Environment			•		•	•		•	•	•		•		•		•	•	•	•

Learning Method/ILO Matrix

Course Content	a1	a2	a3	a4	a5	a6	a10	a11	a13	a18	a19	b1	b2	b4	b7	b11	c1	d1	d2
Lectures	•	•	•	•	•		•	•	•	•	•		•	•	•	•	•	•	•
Tutorials			•		•	•	•	•	•			•	•		•	•	•	•	

Assessment Methods/ILO Matrix

Assessment	a1	a2	a3	a4	a5	a6	a10	a11	a13	a18	a19	b1	b2	b4	b7	b11	c1	d1	d2
Assignment	•	•		•		•				•	•			•	•	•		•	•
Midterm Exam	•		•	•	•		•	•		•			•	•	•	•	•		•
Oral exam		•						•		•	•		•	•	•	•	•	•	
Final Exam	•	•	•	•	•	•	•	•	•			•		•		•	•	•	

Course Coordinator: Dr. Mayada Tarek Head of Department: Dr. Samir Elmogy Date: