Future Academy
Higher Future Institute for Specialized Technological Studies

Course Specification

1- Course information:	
Course Code:	CSC321
Course Title:	Operating Systems (1)
Year/level	3rd
Academic Programs	Computer Science Program (B.Sc.)
Contact hours/ week	(Theoretical = 2hrs, Practical = 2hrs), Total = 4hrs

2- Course aims:

Operating systems are essential part of any computer system. Therefore, a course in operating system is an essential part of any computer science education. And to provide student with knowledge & skills about the fundamental concepts of operating systems, also provide student with Practical knowledge about different OS Platform.

3- Intended learning outcomes of the course (ILOs):

a- Knowledge and understanding:

On successful completion of this course, the student should be able to:
al- Outline the concepts of the operating systems
a2- Define the basic Components of an Operating Systems
a3- Identify the development of an Operating Systems

b- Intellectual skills:

On completing this course, the student should be able to:
b1-Apply the suitable OS depending on their features.
b2- Compare the different type protocols of. an Operating Systems

c- Professional and practical skills:

At the end of this course, the student will be able to:
c1-Use the basic concepts of operating systems together with the modules needed to manage the different computer resources.
c2- Illustrate the Details of some units such as memory management, I/O, and File systems

d- General and transferable skills:

On successful completion of this course, the student should be able to:

d1- Working how to use the main OS with Professional way.

d2- Search, life-long, for information in a self-learning manner and refer to relevant literature efficiently.

d3-Long life learning for business skills.

4- Course contents

Topics/units	Number of hours		ILO's
	Lecture hours	Practical hours	
➢ **Introduction**	3	2	a1
➢ **Basic Concepts of Operating System, which (not linked to any particular or commercial operating system)**	3	2	a1,a2, b2,d1,d3,
➢ **Process Description and Control**	3	2	a2,a3,c1.b2,d3
➢ **Process Description and Control+ Quiz1**	3	2	a1, a4,b1,c1,d2,d3
➢ **Process and Processor Scheduling**	3	2	b2,c1,d2,d3
➢ **Process and Processor Scheduling**	3	2	C2, d2
➢ **Midterm Exam.**	3	2	a3, b2, c2,d2
➢ **Memory management**	3	2	a3, b2, c2,d1,d2
➢ **Memory management& Virtual Memory**	3	2	a3, b2, c2,d1,d2
➢ **Operating system management of I/O**	3	2	b2, c2
➢ **Disk Scheduling & its optimization**	3	2	b2, c2,d3
➢ **Major Operating systems**	3	2	a1,a2, c1,c2,b2,d1,d3,
➢ **Smart card OS**	3	2	a1,a2, c1,c2,b2,d1
➢ **Course review**	3	2	

5- Teaching and learning methods

Methods	ILO's																			
	a1	a2	a3	a4	a5	b1	b2	b3	b4	b5	c1	c2	c3	c4	c5	d1	d2	d3	d4	d5
Lectures	√	√	√			√	√				√	√				√	√	√		
Practical sections		√	√			√	√				√	√				√	√	√		
Self-learning		√				√												√		
Assays and reviews	√	√	√			√	√				√	√				√	√	√		

Discussion groups															√	√	√		
Brainstorming																			
Blended-learning																			
E-learning																			

6- Teaching and learning methods for Low-achieving students

- Extra teaching hours for those who need help
- More quizzes to assess their ability for understanding the course
- Encourage the team work for those students with other advanced ones to increase their participation and understanding

7- Student assessment

Assessment method	Time	Grade weight (%)	Week	ILOs
Course Work (Tutorial Exercise and Assignments)	**Through the semester**	10	Every Week	a1, a2,a3, b1,b2, ,c1,c2,d1,d2,d3
Quiz 1	**Through the lecture**	5	Week#4	a1, a2,b1,b2,c1,d1
Mid-term exam	**1 hours**	10	Week#7	a2, a3,b1,b2,c1,c2
Quiz 2	**Through the lecture**	5	Week#11	a1, a2,a3 ,b1,b2,c1,d1
Practical exam	**2 hours**	10	Week#14	b2,c1, d3
Final Written exam	**2 hours**	60	Week# 15-16	a1, a2,b1,b2, ,c1,c2,d1,

8-List of references

8.1. Student notebooks:

- Comprehensive instructor notes ("PowerPoint slides") are available on the course web page (" Google Classroom")

8.2. Essential textbooks:

- William Stallings, "Operating Systems Internals and Design Principles", 6th Edition.

8.3. Recommended textbooks:

- Abraham silberschatz, peter baer galvin "operating system concepts ",10th Edition

8.4. Journals, Periodical and Reports ……..etc.

8.5. Websites

- https://www.dreamhost.com/blog/linux-commands/

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