1.	**Course Title**	**Introduction to Operating System**	اسم المادة
2.	**Course Code**	**CCPS1023**	رمز المادة
3.	**Status**	Major	مادة أساسية
4.	**Credit Hour**	3 (2+1) 2 for lectures (2 hours per week x 14 weeks) 1 for tutorial (1.5 hours per week x 14 weeks)	عدد الساعات المعتمدة
5.	**Semester/Year**	2/2	الفصل الدراسي
6.	**Prerequisites**	CICT1033	المتطلب السابق إن وجد
7.	**Teaching method:**	Distance Learning (Electronic)	طريقة التدريس
8.	**Evaluation**	**Assessment and Marking Percentage:** Quizzes الامتحانات القصيرة 10 % Assignments الواجبات 10 % Interactions through discussion board المنتديات 10 % Mid-Semester Exam الامتحان النصفي 20 % Final Examination الامتحان النهائي 50 %	
9.	**Lecturer**		
10.	**Objective of the Subject**	CCPS1023 is designed to enable students to: • Understand processes, inter-process communication, concurrent programming, scheduling, memory management, file systems, synchronization, device management and introduction to protection, security and networking in general. • Know the concept and structure of operating systems. • Understand security mechanisms of operating system.	
11.	**Learning Outcomes**	Upon successful completion of CCPS1023, students will be able to • Understand the concept and structure of operating systems. • Understand security mechanisms of operating system. • Promote open source operating system	
12.	**Synopsis**	The purpose of CCPS1023 is to give students an in-depth understanding of the concepts, structure and mechanisms of operating systems, its purpose is also to present, as clearly and completely as possible, the nature and characteristics of modern-day operating systems.	
13.	**Topics**	Details	Lecture (Hrs) / Tutorial (Hrs)
	Topic 1	**Introduction** 1.1 History 1.2 Type of operating systems 1.3 Overview of hardware 1.4 Fundamentals concepts	3 / 1.5
	Topic 2	**Data Representation** 2.1 Text data 2.2 Image representation 2.3 Sound representation	2 / 1.5

	Topic 3	**Machine language** 3.1 Format of machine language instruction 3.2 Jump instruction 3.3 Register 3.4 Addressing the RAM 3.5 Addressing mode 3.5.1 Degenerate 3.5.2 Absolute 3.5.3 Indirect mode 3.5.4 Based indexed mode 3.5.5 Complex addressing	4	3
	Topic 4	**Loading programs** 4.1 Absolute loading 4.2 Memory sections 4.3 Relative loading 4.4 Base addressing 4.5 Overlays 4.6 Loading an operating systems	3	2
	Topic 5	**Ram management** 5.1 Open memory 5.2 Algorithm of dynamic memory 5.3 CPU scheduling 5.4 Multi processor scheduling 5.5 Real time scheduling	3	2
	Topic 6	**Segmented and paged virtual memory** 6.1 Segments, pages and systems calls 6.2 Shared library 6.3 Page exchange 6.4 Swap file management 6.5 Single level of memory	3	2
	Topic 7	**Computer and external events** 7.1 Polling 7.2 Channel processors and direct access to memory 7.3 Interrupt and exceptions 7.4 Multiprocessors architecture	3	2
	Topic 8	**File systems and security** 8.1 Simple file systems 8.2 Complex file systems 8.3 File systems drives 8.4 Authentication 8.5 Authorization	4	3
	Topic 9	**LINUX practical** 9.1 GUI environment 9.2 Linux file system 9.3 Basic user administration 9.4 Basic File administration 9.5 Text editing 9.6 Backup and recovery	3	4
		Total contact hours	28	21
		Equivalent lecture hours	28	14
		Total lecture hours	42	
		Credit hours	3	

14.	**References** **Text book:**	*Iretegov, D. (2006).* ***Operating Systems Fundamentals****. New York: Charles River Media.*
15.	**Additional :** **Other materials :**	Stallings, William. (2005). *Operating* ***Systems-Internals and Design Principles****.* New Jersey: Prentice Hall. All other materials will be available to students online.