

توصيف المقرر دراسي فصل أول

١- بيانات المقرر:		
المستوى: الرابع	اسم المقرر: أمن الشبكات	الرمز الكودي: ٤٠٥ س
نظري: ٢	عدد الوحدات الدراسية: ٣	التخصص: علوم الحاسب

By the end of the course the student must be able to: 1.Introduce the principles and fundamentals of network security. 2.Introduce encryption techniques, network security tools and network security practice.	٢- هدف المقرر:																																										
٣- المخرجات التعليمية المستهدفة من المقرر:																																											
By the end of the course the student must be able to: a1. Define aspects of network security. a2.Describe the principles of public-key Cryptosystem. a3. Explain the current underlying technologies of computer architecture and organization, operating system, computer networks. a4.Illustrate current underlying technologies used in network security.	أ. المعرفة والفهم:																																										
By the end of the course the student must be able to: b1. Evaluate classical techniques their extent to meet criteria defined for its current use as secure systems. b2. Identify data encryption standard cipher. b3. Develop arguments on its development to triple data encryption standard. b4. Distinguish the difference between symmetric and asymmetric encryption.	ب. القدرة الذهنية:																																										
By the end of the course the student must be able to: c1.Apply classical techniques and measure their different security degrees. c2.Demonstrate the effect of large prime numbers in security.	ج. مهارات مهنية وعملية:																																										
By the end of the course the student must be able to: d1. Improve team working skills. d2. Learn the ability to describe and analysis problems. d3. Learn the report writing skills and oral presentation skills.	د. المهارات العامة والقابلة للنقل:																																										
Part I:	٤- محتويات المقرر:																																										
<table border="1"> <thead> <tr> <th>م</th> <th>المحتويات</th> <th>الأسبوع</th> <th>نظري</th> <th>تمرين</th> <th>عملي</th> <th>المجموع</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>registration</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>2</td> <td>Computer network fundamentals.</td> <td>2</td> <td>2</td> <td>0</td> <td>0</td> <td>3</td> </tr> <tr> <td>3</td> <td>Introduction to network security.</td> <td>3</td> <td>2</td> <td>0</td> <td>0</td> <td>3</td> </tr> <tr> <td>4</td> <td>Security standards.</td> <td>4</td> <td>2</td> <td>0</td> <td>0</td> <td>3</td> </tr> <tr> <td>5</td> <td>Source of security threats.</td> <td>5</td> <td>2</td> <td>0</td> <td>0</td> <td>3</td> </tr> </tbody> </table>		م	المحتويات	الأسبوع	نظري	تمرين	عملي	المجموع	1	registration						2	Computer network fundamentals.	2	2	0	0	3	3	Introduction to network security.	3	2	0	0	3	4	Security standards.	4	2	0	0	3	5	Source of security threats.	5	2	0	0	3
م		المحتويات	الأسبوع	نظري	تمرين	عملي	المجموع																																				
1		registration																																									
2		Computer network fundamentals.	2	2	0	0	3																																				
3		Introduction to network security.	3	2	0	0	3																																				
4	Security standards.	4	2	0	0	3																																					
5	Source of security threats.	5	2	0	0	3																																					

3	0	0	2	6	Security threats motives and management.	6
Midterm Exam						7
3	0	0	2	8	Computer network vulnerabilities.	8
3	0	0	2	9	Cybercrimes and hackers.	9
3	0	0	2	10	Hostile scripts.	10
3	0	0	2	11	Security assessment, analysis and assurance.	11
3	0	0	2	12	Access control and authorization.	12
3	0	0	2	13	Authentication, Cryptography	13
3	0	0	2	14	Firewalls.	14

Part I: Practical

م	المحتويات	الأسبوع	نظري	تمرين	عملي	المجموع
1	registration					
2	Securing the Router for Administrative Access, Basic Router Configuration, and Control Administrative Access for Routers.	2	0	0	2	3
3	Securing the Router for Administrative, Access Configure Administrative Roles, Configure IOS Resilience and Management Reporting,	3	0	0	2	3
4	Securing the Router for Administrative, Configure Automated Security Features.	4	0	0	2	3
5	Securing Administrative Access Using AAA and RADIUS, Basic Network Device Configuration, Configure Local Authentication, Configure Local Authentication Using AAA on R3.	5	0	0	2	3
6	Securing Administrative Access Using AAA and RADIUS, Configure Centralized Authentication Using AAA and RADIUS.	6	0	0	2	3
Midterm Exam						7
8	Configuring CBAC and	8	0	0	2	3

					Zone-Based Firewalls, Basic Router Configuration, Configuring a Context-Based Access Control (CBAC) Firewall.		
3	2	0	0	9	Configuring CBAC and Zone-Based Firewalls, Basic Router Configuration, Configuring a Zone-Based Firewall (ZBF) Using SDM.	9	
3	2	0	0	10	Configuring an Intrusion Prevention System (IPS) Using the CLI and SDM, Basic Router Configuration, Configuring IPS Using the Cisco IOS CLI,	10	
3	2	0	0	11	Configuring an Intrusion Prevention System (IPS) Using the CLI and SDM, Configuring IPS using SDM.	11	
3	2	0	0	12	Securing Layer 2 Switches, Basic Device Configuration, SSH Configuration, Secure Trunks and Access Ports.	12	
3	2	0	0	13	Securing Layer 2 Switches, Basic Device Configuration , Configure SPAN and Monitor Traffic	13	
3	2	0	0	14	Exploring Encryption Methods, Decipher a Pre-encrypted Message Using the Vigenere Cipher, Create a Vigenere Cipher Encrypted Message and Decrypt It, Use Steganography to Embed a Secret Message in a Graphic.	14	
1. Lectures 2. Practical 3. Discussion 4. Solving problem 5. Cooperative education							٥-أساليب التعليم والتعلم :

لقاءات فردية – تيسيرات علمية – تعاون شخصي – نقاش علمي			٦-أساليب التعليم والتعلم للطلاب ذوى القدرات المحدودة :
٧-تقويم الطلاب:			
	Types	Assessment	أ. الأساليب المستخدمة:
	Oral exam	d1,d2,d3	
	Midterm Exam	a1,a2, b1,b2	
	Practical exam	c1,c2	
	Final exam	a1,a2,a3,a4,b1,b2,b3,b4	
Assessment 1	Midterm exam	Week 7	ب. التوقيت:
Assessment 2	Practical exam	Week 1٤	
Assessment 3	Oral exam	Week 15-17	
Assessment ٤	Final exam	Week 15-17	
Oral examination:	5%		ج. توزيع الدرجات:
Midterm examination:	10%		
Practical examination:	25%		
Final term examination:	60%		
Total:	100%		
٨-قائمة الكتب الدراسية والمراجع:			
Lecture notes prepared by academic staff members in the department.			أ. مذكرات
Computer Network Security by Joseph Migga Kizza. CCNA Security Study Guide, Troy McMillan. CCNA Security Lab Manual 1.1.			ب. كتب ملزمة
Network Security Basics: Applications and Standards by William Stallings, third edition.			ج. كتب مقترحة
			د. دوريات علمية أو نشرات... الخ

قائم بعمل رئيس قسم الرياضيات

أستاذ المادة

أ.م.د/ هالة أحمد السقا

د/ أحمد محمد ربيع

نموذج رقم (١٢)

جامعة: دمياط
كلية: العلوم
قسم : الرياضيات

توصيف مقرر دراسي فصل أول

١- بيانات المقرر		
الرمز الكودي : ٣٠٤ س	اسم المقرر : نظم التشغيل	المستوى: الثالث
البرنامج : علوم الحاسب	عدد الوحدات الدراسية : ٣ ساعات معتمدة	نظري 2 عملي : 2

<p>By the end of this course the student must be able to:</p> <ol style="list-style-type: none"> 1. Discuss the concepts and components of general purpose operating systems. 2. Provides the frame of reference of how an operating system works involves an understanding of HW structures and SW structures. 3. Use the LINUX operating system. 4. Explain the concepts of LINUX OS. 5. Discuss the laboratory assignment of process/thread synchronization, process communication and memory management. 6. Explain Deadlock handling, mass-storage structure and Disk scheduling. 	٢- هدف المقرر :
٣- المخرجات التعليمية المستهدفة من المقرر:	
<p>By the end of this course the student must be able to:</p> <ol style="list-style-type: none"> a1 Describe the structure of an operating system and know the major parts of an OS. a2 Describe most important HW structure upon which an OS is based. a3 Differentiate between processes and threads. a4 Explain the operation of memory management and virtual memory. a5 Demonstrate various scheduling algorithms and OS schedules tasks. 	أ. المعلومات والمفاهيم :
<p>By the end of this course the student must be able to:</p> <ol style="list-style-type: none"> b1 Specify the design of computer systems. b2 Develop scheduling algorithms and OS schedules tasks. b3 Design multithreaded & concurrent programs. b4 Simulate memory management. b5 Simulate virtual memory. 	ب. القدرة الذهنية:
<p>By the end of this course the student must be able to:</p> <ol style="list-style-type: none"> c1 Write programs that create processes and thread. c2 Write multithreaded programs. c3 Apply different synchronization mechanism to solve synchronization problem. c4 Use basic Linux commands and utilities. c5 Program in Linux environment. c6 Assess the usage of API for S/W development. 	ج. المهارات المهنية الخاصة بالمقرر:

By the end of this course the student must be able to:

- d1 Work as a part of a team to produce reports.
- d2 Work as a part of a team to find a solution for practical problems and projects.
- d3 Write structural reports.
- d4 Develop oral communication skills by making reports presentation.
- d5 Appreciate the need for life-long learning of different Oss

د. المهارات العامة :

Part I:

م	المحتويات	أسبوع	نظري	تمرين	عملي	مجموع
registration						
2	Introduction to computer system and structure.	2	2	0	0	2
3	Operating Systems structures: (system components and services, virtual machines)	3	2	0	0	2
4	Process management	4	2	0	0	2
5	Threads	5	2	0	0	2
6	CPU scheduling: Scheduling concepts, performance criteria, scheduling algorithm.	6	2	0	0	2
Midterm Exam						
8	Synchronization	8	2	0	0	2
9	Memory organization and management for single user and multi-user system.	9	2	0	0	2
10	Secondary storage management	10	2	0	0	2
11	Virtual memory	11	2	0	0	2
12	Deadlock handling	12	2	0	0	2
13	Mass storage structure	13	2	0	0	2
14	Disk scheduling	14	2	0	0	2

٤- محتوى المقرر :

Part II: Practical

م	المحتويات	أسبوع	نظري	تمرين	عملي	مجموع
registration						
2		2	2	0	2	3
3		3	2	0	2	3
3		4	2	0	2	3
5		5	2	0	2	3
6		6	2	0	2	3
Midterm Exam						
8		8	2	0	2	3
9		9	2	0	2	3
10		10	2	0	2	3
11		11	2	0	2	3
12		12	2	0	2	3
13		13	2	0	2	3
14		14	2	0	2	3

1. Lectures 2. Practical 3. Discussion 4. Projects			٥- أساليب التعليم والتعلم :
لقاءات فردية – تيسيرات علمية – تعاون شخصي – نقاش علمي		٦- أساليب التعليم والتعلم للطلاب نوى القدرات المحدودة: ٧- تقويم الطلاب :	
	Types	Assessment	أ. الأساليب المستخدمة :
	Oral exam	d1,d2,d3,d4,d5,d6	
	Practical exam	c1,c2,c3,c4,c5	
	Final exam	a1,a2,a3,a4,b1,b2,b3,b4,b5	
Assessment 1	Midterm exam	Week 7	ب. التوقيت:
Assessment 2	Oral exam	Week 15-17	
Assessment 3	Practical exam	week 14	
Assessment 4	Final exam	Week 15-17	
Oral examination:	5 %	ج. توزيع الدرجات	
Practical/laboratory examination:	25 %		
Mid term examination:	10 %		
Final term examination:	60 %		
Total:	100 %		
٨- قائمة الكتب الدراسية والمراجع :			
Lecture notes prepared by academic staff members in the department.		أ. مذكرات :	
A. Silberschatz et. Al., Operating systems concepts (9th ed.), Addison Wesley, 2010.		ب. كتب ملزمة :	
		ج. كتب مقترحة:	
		د. دوريات علمية أو نشرات ... الخ	

قائم بعمل رئيس قسم الرياضيات

أستاذ المادة

أ.د/ هالة أحمد السقا

أ.د/ جمال محمد بحيري عيسى

