

نموذج رقم ( ١٢ )

جامعة: دمياط  
كلية: الحاسبات والمعلومات  
قسم: تكنولوجيا المعلومات

توصيف مقرر دراسي فصل ثانى

١- بيانات المقرر :	
الرمز الكودي: ٤٤٣ تمع	اسم المقرر: الشبكات اللاسلكية والمتحركة   المستوى: الثالث
التخصص: تكنولوجيا المعلومات	عدد الساعات المعتمدة: (٣) نظري: (٢) تمارين/عملي: (٢)

<p><b>By the end of this course the student be able to:</b></p> <ol style="list-style-type: none"> <li>1- Understand and apply the principles and practices of wireless networks.</li> <li>2- Identify the different types of mobile network generations.</li> <li>3- Understand Ad Hoc and mesh networks.</li> <li>4- Provide education and training of mobile edge computing.</li> <li>5- Understand traffic engineering.</li> <li>6- Demonstrate different wireless media.</li> <li>7- Explain mobile networks.</li> <li>8- Understand IEEE technologies.</li> </ol>	<p><b>2- Course Objectives</b> أهداف المقرر</p>
<p><b>3- Intended Learning Outcomes of Course (ILOs)</b> المخرجات التعليمية المستهدفة من المقرر</p>	
<p><b>By the end of this course the student be able to:</b></p> <ol style="list-style-type: none"> <li>a.1 Describe the main concepts, definitions of mobile computing.</li> <li>a.2 Define cellular network.</li> <li>a.3 Recognize network architecture and protocols.</li> <li>a.4 List control and user planes .</li> <li>a.5 Recognize characteristics envisioned for 5G.</li> </ol>	<p><b>a. Knowledge and Understanding</b> المعرفة/ الفهم</p>
<p><b>By the end of this course the student be able to:</b></p> <ol style="list-style-type: none"> <li>b.1 Manipulate and apply appropriate theories, principles and concepts relevant to different mobile generations.</li> <li>b.2 Compare and evaluate between different wireless network topologies.</li> <li>b.3 Apply appropriate IEEE technologies standards.</li> <li>b.4 Explain and apply the knowledge of design of Ad Hoc network.</li> <li>b.5 Assess different solutions for Quality of Services.</li> </ol>	<p><b>b. Intellectual /Cognitive Skills</b> القدرة الذهنية</p>
<p><b>By the end of this course the student be able to:</b></p> <ol style="list-style-type: none"> <li>c.1 Design, configure/construct, test and evaluate different wireless networking standards.</li> <li>c.2 Identify benefits and drawbacks of existing wireless networks.</li> <li>c.3 Apply different IEEE technologies.</li> <li>c.4 Use appropriate simulator for understand wireless network designing and configurations.</li> <li>c.5 Present specialized research reports for mobile computing.</li> </ol>	<p><b>c. Professional and Practical Skills</b> مهارات مهنية و عملية</p>
<p><b>By the end of this course the student be able to:</b></p> <ol style="list-style-type: none"> <li>d.1 Demonstrate ability to work as a team member.</li> <li>d.2 Solve problems relevant to wireless network design using ideas and techniques some of which are at the forefront of the discipline.</li> <li>d.3 Learn Critical thinking.</li> </ol>	<p><b>d. General and transferable skills</b> المهارات العامة والقابلة للنقل</p>

- d.4 Acquire and use communications and research skills.  
d.5 Learn within a setting of self-learning through discussion.

**Part I: Theoretical**

المجموع	عملي	تمرين	نظري	الأسبوع	المحتويات	م
2	0	0	2	1	Fundamentals of Wireless Communication, Wireless communication system, Wireless media.	1
2	0	0	2	2	Wireless Communication Channel Specifications, Types of Wireless Communication Systems.	2
2	0	0	2	3	Wireless Network Architecture, Classification of Wireless Networks.	3
2	0	0	2	4	Wireless Networking Issues, QoS Management.	4
2	0	0	2	5	Mobile and wireless generation networks, IEEE technologies.	5
2	0	0	2	6	Wireless Body Area Networks, Network Protocols WBAN Technologies, WBAN Applications	6
2	0	0	2	7	Wireless Personal Area Networks, WPAN Components, WPAN Technologies and Protocols, WPAN Applications.	7
				8	Midterm Exam.	8
2	0	0	2	9	Cellular network, Principles of cellular network functionalities.	9
2	0	0	2	10	Mobile and wireless generation networks, IEEE technologies.	10
2	0	0	2	11	Mobile-Edge Computing, Network virtualization technology,	11
2	0	0	2	12	Wireless Ad Hoc Networks, Mobile Ad Hoc Networks.	12
2	0	0	2	13	Wireless Sensor Networks, Wireless Mesh Networks.	13
2	0	0	2	14	Internet of Things, Near-field communication, Near-field communication, Fog networking,	14

**Part II: Practical**

مجموع	عملي	تمرين	نظري	أسبوع	المحتويات	م
1	2	0	0	1	Connecting wireless LAN, Connect Cable Modem to Wireless Router, Enable Wireless Connectivity. ( <b>Packet Tracer</b> )	1
1	2	0	0	2	Configure wireless connectivity for wireless devices, Configure wireless security so that clients must authenticate	2

**4- Course Contents**  
محتويات المقرر

					to connect to the wireless network ( <b>Packet Tracer</b> )		
1	2	0	0	3	Configure and Verify Wireless Client Access, Configuring WEP on a Wireless Router. ( <b>Packet Tracer</b> )	3	
1	2	0	0	4	Configure Site-to-Site Wireless Link, Configuring Site-to-Site Wireless Link using Enterprise Security. ( <b>Packet Tracer</b> )	4	
1	2	0	0	5	Flutter introduction, Flutter installation, Creating simple application.	5	
1	2	0	0	6	Architecture for flutter application, Widgets, Gestures, Concepts of State, Layers.	6	
1	2	0	0	7	Introduction To DART programming, Variables, Data types, Loops, Functions, Object Oriented Programming.	7	
				8	<b>Midterm Exam,</b>	8	
1	2	0	0	9	Introduction to Layouts, Introduction to Gestures, Ephemeral state management.	9	
1	2	0	0	10	Application state scope model, Navigation and Routing.	10	
1	2	0	0	11	Flutter animation, Writing Android specific code, Writing IOS specific code.	11	
1	2	0	0	12	Introduction to package Flutter accessing REST API, Flutter database concepts, SQLite, Cloud Firestore.	12	
1	2	0	0	13	Flutter internationalization, Flutter testing, and Flutter deployment (Android and IOS applications)	13	
1	2	0	0	14	Flutter development tools, Widgets sets, DART DevTools, Flutter SDK, and Writing advanced applications.	14	
1. Lectures: 2 Hours per week (2H/W) 2. Practical: 2 Hours per week (2H/W) 3. Discussion							5- أساليب التعليم والتعلم :
لقاءات خاصة خلال الساعات المكتبية.							6- أساليب التعليم والتعلم للطلاب ذوي القدرات المحدودة :
							7- تقويم الطلاب :
		<b>Types</b>		<b>Assessment</b>			أ. الأساليب المستخدمة:
		Midterm exam		a1, a2, a3, b1, b2, c1, c2, c3, d1, d2.			
		Practical exam		a3, a4, b2, b4, c1, c2, c3, c4, c5, d4.			
		Oral Exam		a1, a2, b2,b3, c1,c2,d1			
		Final written exam		a1, a2, a3, a4, a5, b1,b2,b3,b4,b5, c2,d2			
Assessment 1			Midterm exam		Week 8		ب. التوقيت :
Assessment 2			Practical exam		Week 15		
Assessment 3			Oral exam		Week 16		
Assessment 4			Final written exam		Week 16		
		Midterm examination:		20 %			ج. توزيع الدرجات:
		Practical/laboratory examination:		20 %			
		Oral examination		10%			
		Final term examination:		50 %			
		Total:		100 %			

٨- قائمة الكتب الدراسية والمراجع:	
Lecture notes prepared by academic staff members in the department.	أ. مذكرات
1- Wireless and Mobile Networks, Concepts and Protocols, Dr. Sunilkumar S. Manvi, Dr. Mahabaleshwar S. Kakkasageri, WILEY, 2016. 2- Flutter, Tutorials point, Simple Easy Learning, 2019.	ب. كتب ملزمة
1- Mobile and Wireless Networks, Khaldoun Al Agha, Guy Pujolle, Tara Ali-Yahiya, WILEY, Volume 2, 2016. 2- Fundamentals of Wireless LANs Instructor Lab Manual, CISCO Networking Academy Program. 3- Flutter for Beginners, Alessandro Biessek, 2019.	كتب مقترحة
1- <a href="https://www.tutorialspoint.com/flutter/flutter_tutorial.pdf">https://www.tutorialspoint.com/flutter/flutter_tutorial.pdf</a> 2- <a href="https://krishna-adhikari.com.np/programmingebooks/books/fluttersuccinctly.pdf">https://krishna-adhikari.com.np/programmingebooks/books/fluttersuccinctly.pdf</a>	ج. دوريات علمية أو نشرات... الخ

أستاذ المقرر

د/ أحمد محمد ربيع سيد