



Al-AI Bayt University
Prince Hussein bin Abdullah Faculty of Information Technology
Computer Science

Course Syllabus

Course Title	Wireless Communications and Mobile Computing	Course Code	0901327
Coordinator	Khaled Batiha	Prerequisite(s)	0901325
E-mail	batihakhalid@aabu.edu.jo	Credit Hours	3
Course Is	<input type="checkbox"/> Required		

Course Description:

Wireless data and mobile computing, programming language, wireless and programming tools, programming interfaces and Wireless Application Protocol (WAP, 802.11, WiFi, Bluetooth). Operating systems. Development of computer software, mobile and limitations, and security considerations.

Course Learning Outcomes (CLO):

The course provides an overview of wireless networking, along with details of applicable standards and technologies. Newcomers to wireless technologies will find practical information along with an abundance of examples. The course aims to give a basic introduction to wireless networks and an explanation of radio wave communications. It then reviews different types of wireless networks including WPANs (wireless personal area networks), WLANs (wireless local area networks), wireless MANs (metropolitan area networks), and WWANs (wireless wide area networks). And it covers security threats to wireless networks, and solutions to combat these threats.

Tentative Topics Covered

Week No	Topic
1	The Wireless World: An Introduction to Concepts, Wireless Networks Defined, Wireless Network Applications,
2	Wireless Network Applications, Wireless Network Benefits
3	Wireless System Architecture: How Wireless Works, Wireless Network System Components,

4	Network Architecture, Information Signals, Flow of Information Through a Wireless Network
5	Radio Frequency and Light Signal Fundamentals: The Invisible Medium, Wireless Transceivers, Understanding RF Signals
6	Understanding Light Signals, Modulation: Preparing Signals for Propagation
7	Wireless PANs: Networks for Small Places, Wireless PAN Components,
8	Wireless PAN Systems, Wireless PAN Technologies
9	Wireless LANs: Networks for Buildings and Campuses, Wireless LAN Components
10	Wireless LAN Systems, Wireless LAN Technologies
11	Wireless MANs: Networks for Connecting Buildings and Remote Areas, Wireless MAN Components
12	Wireless MAN Systems, Wireless MAN Technologies
13	Wireless WANs: Networks for Worldwide Connections Resources, Wireless WAN Components
14	Wireless WAN Systems, Cellular-Based Wireless WANs, Space-Based Wireless WANs, Wireless WAN Technologies
15	Wireless Network Security: Protecting Information Resources, Security Threats, Encryption, Authentication, Security Policies
16	Final exam

Textbook(s)			
Title	Wireless Networks first-step		
Author(s)	Jim Geier	Publisher	Cisco Press
Edition	6th	Year	2004

References	
Book Titles (Author(s), Title, Edition, Publisher, Year)	Website URL (if available)
1. William Stallings, Wireless Communications & Networks, Second Edition, Pearson Education, 2005.	
2. Jochen Schiller –Mobile Communications / Mobilkommunikation.	
3. Ivan Stojmenovic–Handbook of Wireless Networks and Mobile Computing.	
4. T. S. Rappaport. Wireless Communications: Principles and Practice, 2nd ed. Prentice Hall, 2002.	
5. S. Haykin and M. Moher, Modern Wireless Communications, Prentice Hall, 2005	
6. Lecturers Notes and Handouts	

Evaluation	
Assessment Tool	Marks
- First Exam	20
- Second Exam	20
- Assignments (Reports, Quiz, Seminar, Tutorial, etc.) - Discipline, presence and participation	10
- Lab	-
- Final Examination	50