



Jordan University of Science and Technology
Faculty of Computer & Information Technology
Computer Science Department

CS442 Wireless Networks - JNQF Level: 7

Second Semester 2023-2024

Course Catalog

3 Credit Hours. Motivation, wireless network architectures and wireless network devices, wireless standards, mobile computing issues, wireless local area networks and satellite-based networks, sensor networks, mobile Internet protocol, extending the client-server model for mobility, mobile data access, language support for mobile and wireless computing, and technologies such as infrared devices and Bluetooth.

Teaching Method: Blended

Text Book

Title	Wireless Communication Networks and Systems
Author(s)	William Stallings
Edition	1st Edition
Short Name	Textbook
Other Information	An extended newer edition (2016) for Wireless Communications and Networks textbook

Course References

Short name	Book name	Author(s)	Edition	Other Information
Textbook	Data Communication and Networking	Behrouz A. Forouzan	5th Edition	
Textbook	Data and computer Communication	William Stallings	10th Edition	
Ref#1	CCNA	Cisco Academy	1st Edition	

Instructor

Name	Mr. Abedl-Rahman Almodawar
Office Location	A1 L3
Office Hours	
Email	aaalmodawar@just.edu.jo

Class Schedule & Room
Section 2: Lecture Time: Sun, Tue : 08:30 - 09:30 Room: G2121 Section 3: Lecture Time: Sun, Tue : 13:30 - 14:30 Room: G2120

Prerequisites		
Line Number	Course Name	Prerequisite Type
1733420	CS342 Computer Networks	Prerequisite / Study

Tentative List of Topics Covered		
Weeks	Topic	References
Week 1	Networks Overview and Introduction to Wireless networks.	
Weeks 2, 3	Transmission fundamentals: Signals, Signals features, Transmission Impairment , Transmission Performance and Channel utilization(Multiplexing)	
Week 4	Communication Networks and switching techniques	
Week 5	Overview of wireless communications and wireless channels	
Week 6	MAC and Data Link Control Protocols	
Weeks 7, 8	Wireless LAN (Wi-Fi, 802.11) Technology	
Week 9	Wireless PAN (WPAN, 802.15) technologies: Bluetooth and Zigbee	
Week 10	Wireless MANs (WiMaX,802.16)	
Weeks 11, 12	Cellular Wireless Network technology and different generations.	
Week 13	Mobile Ad hoc Networks (MANET) and Handoff in Wireless Mobile Networks	
Week 14	Emerging trends in Wireless Networks	

Mapping of Course Outcomes to Program Outcomes and NQF Outcomes	Course Outcome Weight (Out of 100%)	Assessment method
Develop an understanding of basic concepts in Networks and Wireless Technologies [1SO2] [1L7S1]	18%	

Develop an understanding of different types of signals and their features [1SO2] [1L7S1]	7%	
Develop an understanding of Network performance and channel Optimization techniques [1SO2] [1L7S1]	10%	
Develop an understanding of both MAC and DLC protocols. [1SO2] [1L7S1]	25%	
Develop an understanding of Wireless LAN in term of possible configurations, application areas, requirements, in addition to several issues related to the IEEE 802.11 standard. [1SO2] [1L7S1]	15%	
Provide a brief introduction to selected issues related to, cellular networks, mobile ad-hock networks and wireless sensors networks. [1SO2] [1L7S1]	25%	

Relationship to Program Student Outcomes (Out of 100%)					
SO1	SO2	SO3	SO4	SO5	SO6
	100				

Relationship to NQF Outcomes (Out of 100%)	
L7S1	
100	

Evaluation	
Assessment Tool	Weight
MidTerm Exam	30%
Quizzes and Activities	20%
Final Exam	50%

Policy	
Attendance	Attendance is very important for the course. In accordance with university policy, students missing more than 20% of total classes are subject to failure. Penalties may be assessed without regard to the student's performance. Attendance will be recorded at the beginning or end of each class
Exams	All exams will be CLOSE-BOOK; necessary algorithms/equations/relations will be supplied if required.

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