



Jordan University of Science and Technology
Faculty of Computer & Information Technology
Network Engineering And Security Department

NES543 Wireless Networks Laboratory

First Semester 2019-2020

Course Catalog

1 Credit Hours. A set of experiments on configuring, implementing, integrating, and testing a variety of wireless technologies. Methods and tools for network management of wireless networks such as WLAN Network Management Systems, Routers, and Switches.

Text Book

Title	Computer Networks: A Top-Down Approach Featuring the Internet
Author(s)	James F. Kurose and Keith W. Ross
Edition	6th Edition
Short Name	Ref#1
Other Information	

Instructor

Name	Prof. Mohammad Al-Rousan
Office Location	M2L2
Office Hours	Sun : 09:30 - 11:30 Mon : 10:00 - 12:00 Tue : 09:30 - 10:30 Wed : 11:00 - 13:00
Email	alrousan@just.edu.jo

Class Schedule & Room

Section 4:
Lecture Time: Thu : 13:30 - 16:30
Room: NES03-N1L0

Tentative List of Topics Covered		
Weeks	Topic	References
Week 2	Access Point Configuration	
Week 3	AirCheck Wi-Fi Tester	
Week 4	Wireless sensor network configuration and monitoring under Windows OS	
Week 5	Wireless sensor network programming and monitoring under Unix OS	
Week 8	Wireless ad hoc network configuration	
Week 9	AirMagnet Spectrum XT analyzer tool	
Week 10	Measuring RF signal propagation characteristics	
Week 11	AirMagnet RF Planner tool	
Week 12	Turning your PC into a Wi-Fi hotspot	

Mapping of Course Outcomes to Program Student Outcomes	Course Outcome Weight (Out of 100%)	Assessment method
Configure a wireless LAN access point and setup a wireless LAN network. [1SO1, 1SO2, 1SO6]	7%	Midterm exam, Quizzes, Lab Work, Final Exam
Configure wireless ad hoc stations and setup a wireless ad hoc network. [1SO1, 1SO2, 1SO6]	11%	Quizzes, Lab Work, Final Exam
Use monitoring and debugging wireless equipment such as the AirCheck tester. [1SO1, 1SO2, 1SO6]	14%	Midterm exam, Quizzes, Lab Work, Final Exam
Configure wireless sensor motes and setup wireless sensor networks under Windows and Unix OSs. [1SO1, 1SO2, 1SO6]	13%	Quizzes, Lab Work, Final Exam
Use RF signal analysis tools, such as Spectrum XT Analyzer, to identify noise and interference sources. [1SO1, 1SO2, 1SO6]	14%	Quizzes, Lab Work, Final Exam
Design wireless networks for indoor environments using planning tools such as AirMagnet Planner. [1SO1, 1SO2, 1SO6]	13%	Midterm exam, Quizzes, Lab Work, Final Exam
Perform experimental radio frequency measurements in order to deduce the environmental characteristics of the wireless signal propagation. [1SO1, 1SO2, 1SO6]	17%	Midterm exam, Quizzes, Lab Work
Create a Wi-Fi access point using a PC and wireless adapter. [1SO1, 1SO2, 1SO6]	11%	Lab Work, Final Exam

Relationship to Program Student Outcomes (Out of 100%)																	
A	B	C	D	E	F	G	H	I	J	K	SO1	SO2	SO3	SO4	SO5	SO6	SO7
											33.33	33.33				33.33	

Evaluation	
Assessment Tool	Weight
Midterm exam	25%
Quizzes	15%
Lab Work	20%
Final Exam	40%

Policy	
Exams	1. May include: Definitions, True/False, Multiple-Choice, Analysis and Descriptive formats. 2. Use only your own tools: calculator, pens and ruler 3. Instructions on the first page of the exam are quite important. 4. Not abiding by the rules is a reason for dismissal from the exam.
Makeups	Makeup exam should not be given unless there is a valid excuse.
Drop Date	Last day to drop the course is before the 12th week of the current semester.
Cheating	Standard JUST policy will be applied.
Attendance	1. Excellent attendance is expected. 2. According to the JUST policy, a student will receive the grade of ZERO (35%) "failed for absence" if he misses more than 20% of the classes. 3. Attendance will be taken by calling the names or passing a sign-up sheet. 4. If you miss a class, it is your responsibility to find out about any announcements or assignments you may have missed.
Workload	Average work-load student should expect to spend is 3 hours/week.
Graded Exams	Graded exam papers will be returned within a week.
Participation	1. Participation in the class will positively affect your performance. 2. Disruption and side talks will possibly result in dismissal from class. 3. No eating or chewing gums are allowed in class.

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