Jordan University of Science and Technology

Faculty of Computer & Information Technology

Cybersecurity Department

CY343 Networks Security - JNQF Level: 7

Second Semester 2023-2024

Course Catalog
2 Credit Hours. This course covers principles and techniques for network and communication security. It explains many network attacks such as DoS and DDoS, MAC flooding, and DHCP spoofing. In addition, the course covers different types of network countermeasures such as firewalls and NIDS that are used to prevent and detect network attacks. Moreover, the course discusses in detail how security protocols such as SSL/TLS, SSH, and IPsec work.
Teaching Method: On Campus

Text Book	
Title	Network Security Essentials: Applications and Standards
Author(s)	William Stallings Pearson
Edition	6th Edition
Short Name	Network Security
Other Information	

Course References

Short name	Book name	Author(s)	Edition	Other Information
Network Security	Network Security, Firewalls, and VPNs	Stewart, J. Michael, Kinsey, Denise ,Hardcover	3rd Edition	

Instructor	
Name	**Dr. Khaled Alrawashdeh**
Office Location	N2L0
Office Hours	Sun : 09:00 - 12:00 Tue : 10:00 - 12:00 Wed : 13:00 - 14:00 Thu : 10:00 - 11:00

Email	kmalrawashdeh@just.edu.jo

Class Schedule & Room
Section 1: Lecture Time: Sun, Tue : 12:30 - 13:30 Room: M4202

Prerequisites		
Line Number	**Course Name**	**Prerequisite Type**
1773410	CY341 Computer Networks	Prerequisite / Study
1772610	CY261 Cryptography	Prerequisite / Study
1773710	CY371 Linux Operating System Laboratory	Prerequisite / Study

Tentative List of Topics Covered		
Weeks	**Topic**	**References**
Week 1	Introduction: Network Security - Part I: Cryptography	From **Network Security**
Weeks 2, 3	Symmetric Encryption and Message	From **Network Security**
Week 4	Public-key cryptography and Message Authentication	From **Network Security**
Weeks 5, 6	Key Distribution and User Authentication	From **Network Security**, From **Network Security**
Week 7	Network Access Control and Cloud Security	From **Network Security**
Week 8	Transport-Level Security	
Week 9	Wireless Network Security	From **Network Security**
Week 10	Electronic Mail Security	From **Network Security**
Week 11	IP Security	From **Network Security**
Weeks 12, 13	? Part III: System Security And Malicious Software	
Weeks 14, 15	Intruders, Firewalls	
Week 16	Final Exam	

Mapping of Course Outcomes to Program Outcomes and NQF Outcomes	Course Outcome Weight (Out of 100%)	Assessment method
Understand the basic principles of computer network and network security [15SO1] [15L7K1]	15%	
Understand the security vulnerability inherited in the network protocols [15SO1] [15L7K1]	15%	

Evaluate the importance of cryptographic algorithms for network security policies and access control. [15SO2] [15L7S2]	15%	
Evaluate network security methods and procedures and analyze their efficacy. [15SO3] [20L7S2]	20%	
Analyze and troubleshoot network connectivity and security problems using different operating systems. [20SO4] [20L7S3]	20%	
Apply network defensive concepts and techniques to secure network resources such as firewalls, IDS, and IPS. [15SO6] [15L7C4]	15%	

Relationship to Program Student Outcomes (Out of 100%)					
SO1	SO2	SO3	SO4	SO5	SO6
30	15	20	20		15

Relationship to NQF Outcomes (Out of 100%)			
L7K1	L7S2	L7S3	L7C4
30	35	20	15

Policy	
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	Excellent attendance is expected. 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. Attendance will be taken by calling the names or passing a sign-up sheet. If you miss a class, it is your responsibility to find out about any announcements or assignments you may have missed.
Participation	Participation in the class will positively affect your performance. Disruption and side talks will possibly result in dismissal from class. No eating or chewing gums are allowed in class.

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