



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

CY341 Computer Networks - JNQF Level: 6

First Semester 2023-2024

Course Catalog

3 Credit Hours. 3 Credit Hours. This course covers topics about network architectures, application layer protocols such as HTTP and FTP, transmission layer protocols such as TCP and UDP, network Layer services such as routing protocols, IPV4 and IPV6, data link layer services such as error detection and correction, multiple access control and principles of wireless networks.

Text Book

Title	Computer Networks: A Top-Down Approach
Author(s)	James F. Kurose and Keith W. Ross
Edition	8th Edition
Short Name	Ref #1
Other Information	

Course References

Short name	Book name	Author(s)	Edition	Other Information
Ref #2	Data Communications and Networking	Behrouz A. Forouzan	4th Edition	

Instructor

Name	Dr. Heba Alawneh
Office Location	-
Office Hours	
Email	hzalawneh@just.edu.jo

Class Schedule & Room

Section 2:

Lecture Time: Mon : 11:30 - 13:00

Room: M2008

Prerequisites

Line Number	Course Name	Prerequisite Type
1732841	CS284 Analysis And Design Of Algorithms	Prerequisite / Study

Tentative List of Topics Covered

Weeks	Topic	References
Weeks 1, 2	Introduction to computer networks and the Internet	From Ref #1
Weeks 3, 4, 5	The application-layer concepts, services, and protocols.	chapter2 From Ref #1
Weeks 6, 7, 8	The transport-layer concepts, services, and protocols	chapter3 From Ref #1
Weeks 9, 10, 11	Network Layer- The Data Plane	chapter4 From Ref #1
Weeks 12, 13	The Network Layer- The Control Plane	chapter5 From Ref #1
Weeks 14, 15	The data link-layer concepts, services, and protocols	chapter6 From Ref #1

Mapping of Course Outcomes to Program Outcomes and NQF Outcomes	Course Outcome Weight (Out of 100%)	Assessment method
Use the basic computer networking terminology to describe the different components, services, and applications provided of the Internet [1SO1] [1L6K2]	10%	
Understand the design roles of the major components of the computer networks and the Internet such as the host, router, network application, protocol, and network services [1SO1] [1L6K1]	10%	
Understand the operation of the major Internet protocols such as the HTTP, DHCP, TCP, UDP, and IP. [1SO1] [1L6S2]	20%	
Calculate the major network measure of performance metrics such as packet delay, link utilization, and throughput [1SO1, 1SO2] [1L6S3]	10%	
Understand the main principles of reliable data transfer and the algorithms used, and how the TCP, for example, employs such principles to provide reliable data transfer service [1SO1] [1L6C4]	15%	
Differentiate between internetworking (i.e.; switching) devices and their functions such as hubs, switches, and routers. [1SO1] [1L6C3]	5%	
Differentiate between the virtual-circuit networks and the datagram networks and describe the operation principles of each [1SO1] [1L6C5]	5%	

Differentiate between the multiple-access techniques and protocols, the principle of operation for each, and the advantages and disadvantages of each. [1SO1] [1L6S1]	10%	
Understand the operation of the IP protocol and how the hierarchical assignment of IP addresses facilitates the routing of the packets across the network [1SO1, 1SO2] [1L6C2]	15%	

Relationship to Program Student Outcomes (Out of 100%)				
SO1	SO2	SO3	SO4	SO5
87.5	12.5			

Relationship to NQF Outcomes (Out of 100%)								
L6K1	L6K2	L6S1	L6S2	L6S3	L6C2	L6C3	L6C4	L6C5
10	10	10	20	10	15	5	15	5

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 exams 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 is applied.
Attendance	1. Excellent attendance is expected. 2. According to the JUST policy, a student will receive a grade of ZERO (35%) "failed for absence" if they miss more than 20% of the classes. 3. Attendance will be taken by calling, or through quizzes. 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 8 hours/week.
Graded Exams	Exam grades will be published online (on JUST elearning system), and midterm exams will be solved and discussed during class time.
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.

Date Printed: 2023-10-23