جامعــة الـزيتـونـــة الأردنيـة
Al−Zaytoonah University of Jordan
كلية العلوم وتكنولوجيا المعلومات
Faculty of Science and Information Technology

" عراقة وجودة"
"Tradition and Quality"

Detailed Course Description - Course Plan Development and Updating Procedures/ Computer Information Systems Department	QF01/0408-3.0E

Faculty	Faculty of Science and Information Technology	Department	Computer Information Systems
Course Number	0113231	Course Title	**Computer Network**
Number Of Credit Hours	3	Pre-Requisite/Co-Requisite	Introduction to Information Technology

Brief Course Description

Instruction in networking technologies and their implementation.topics include the OSI reference model, network protocols, transmission media, and networking hardware and software.

The purpose of this course is to identify and use network transmission media; explain the OSI model; recognize the primary network topologies/protocols, identify their characteristics, and determine which would be most appropriate for a proposed network; identify the functions of a network operating system and distinguish between centralized, client/server, and peer-to-peer systems; and distinguish between Local Area Networks (LANs) and Wide Area Networks (WANs) and identify the components used to expand a LAN into a WAN.

	Course Goals and Learning Outcomes
Goal 1	**Define computer networks and describe their purpose.**
Learning Outcomes	**1.1** Define a computer network. **1.2** Explain the elements of communication **1.3** List and describe the two types of networks
Goal 2	**Describe network media and data transmissions**
Learning Outcomes	**2.1** Explain how data transmissions are sent and received. **2.2** List and describe the types of transmission media **2.3** Describe the functions of a network interface card.
Goal 3	**Explain network design and describe the various network topologies and network types.**
Learning Outcomes	**3.1** List and describe the characteristics of the mesh, bus, ring, star, and hybrid topologies, tell what items should be considered when selecting a network topology. **3.2** Define channel access method. d. Give the advantages and disadvantages of contention, polling, token passing, and demand priority channel access methods **3.3** List and describe the characteristics of the PAN, LAN, MAN, WAN networks.
Goal 4	**Discuss network protocols and network software.**
Learning Outcomes	**4.1** Explain the OSI & DOD reference models **4.2** Define protocol of OSI and DOD **4.3** List and describe the functions of TCP/IP.
Textbook	Computer Networking: A Top-Down Approach (International Edition) by James F. Kurose and Keith W. Ross 7th edition (**2016**)

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Supplementary References	**1.** Introduction to Computer Networks and Cybersecurity, 2013 - CRC Press, Chwan-Hwa (John) Wu, J. David Irwin. **2.** IT Essentials PC Hardware and Software Course Booklet, Version 5 , By Cisco Networking Academy, 2013 by Cisco Press. **3.** Computer Networks And Communications, Third Edition, Abdelfatah Aref Tamimi, Ph.D, Eng. Jamal M. Khalifeh, Ph.D.

Course Timeline				
Week	**Number of Hours**	**Course Topics**	**Pages (Textbook)**	**Notes**
01	1 1 1	**What is a Network?** **Benefits of Computer Networking.** **Types of Networks.**	**1-19**	
02	1 1 1	**Network Classification:** – Local Area Network (LAN) – Metropolitan Area Networks (MAN's), – Wide Area Network (WAN), – Internetworking (Internet)	**20-32**	
03	1 1 1	**Network Architucher :** – Peer-to-Peer vs. Client/Server Architecture. **Network Topology:** – Bus, Ring, Star, Mesh, Tree and Hybrid.	**35-61**	
04	1 1 1	**Throughput and band width Transmission Basics:** – analog and digital, – Data Modulation, – Simplex duplex and half duplex – Mux: TDM, FDM.WDM		
05	1 1 1	**Transmission basics (continue) :** – Relation between nodes: P2P, Broadcast... etc. – Transmission flows problems – Type of noises		
06	1 1 1	**Type of media** **First Exam 20%**	**18-22**	
07	1 1 1	**OSI Model & encapsulation**	**47-55** **84-97**	
08	1 1 1	**Continue OSI Model & encapsulation**	**47-55** **84-97**	
09	1 1	**Segmentation and routing devices**	**306-362**	

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		1			
10		1 1 1	**IP addressing & subnetting**	**306-362**	
11		1 1 1	**Second Exam 20%** **Routing Basics**	**363-384**	
12		1 1 1	**Routing protocols** **Ethernet Networking**	**384-412** **230-259**	
13		1 1 1	**VLAN** **Introduction to WAN Basics**	**230-259**	
14		1 1 1	**DoD Model**	**98-144**	
15		1 1 1	**Introduction to Wireless and Mobile network**	**513-534**	
16		1 1 1	**Final Exam 50%**		

Theoretical Course Evaluation Methods and Weight	Participation = 10% First Exam 20% Second Exam 20% Final Exam 50%	Practical (Clinical) Course Evaluation Methods	Semester Students' Work = 50% (Reports, Research, Quizzes, Etc.) Final Exam = 50%

Approved by head of department		Date of approval	

Extra information (to be updated every semester by corresponding faculty member)

Name of Teacher		Office Number	
Phone Number (Extension)		Email	_____ @zuj.edu.jo
Office Hours			