



Course Specifications

Course Title:	Computer Networking
Course Code:	MIS-421
Program:	Management Information Systems
Department:	Management Information Systems
College:	College of Business Administration – Al Kharj (CBAK)
Institution:	Prince Sattam bin Abdulaziz University

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A. Course Identification

1. Credit hours:	5
2. Course type	
a.	University <input type="checkbox"/> College <input type="checkbox"/> Department <input checked="" type="checkbox"/> Others <input type="checkbox"/>
b.	Required <input checked="" type="checkbox"/> Elective <input type="checkbox"/>
3. Level/year at which this course is offered:	8th level/ 3rd Year
4. Pre-requisites for this course (if any):	MIS 201-Management Information Systems
5. Co-requisites for this course (if any):	N/A

6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	60	100%
2	Blended		
3	E-learning		
4	Distance learning		
5	Other		

7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	Lecture	48
2	Laboratory/Studio	12
3	Tutorial	
4	Others (specify)	
	Total	60

B. Course Objectives and Learning Outcomes

1. Course Description

This course is an introduction to the fundamentals of computer communications networks. The course focuses on the network concepts, media, topologies, components, protocols and standards; and issues involved in the design, implementation and management of computer networks. Also, analog and digital transmission of data, transmission media and devices, LANS and WANS, TCP/IP fundamentals and message switching will be discussed

2. Course Main Objective

This course examines networking technologies and concepts in telecommunications with an emphasis placed on applying these concepts to obtain network solutions for different business situations.

3. Course Learning Outcomes

CLOs		Aligned PLOs
1	Knowledge and Understanding	
1.1	Recognize what is meant by a computer network, and to be able to describe some of the advantages and disadvantages of using them	PLO 1.1
1.2	Define what is meant by a LAN and a WAN and understand the differences between peer-to-peer and server-based networks, and know when it is appropriate to use each type.	PLO 1.1
1.3	List and able to describe the 4 basic type of network topology, and understand the difference between a physical and logical topology	PLO 1.4
1.4	Explain the function of each layer in the OSI and the device and protocols in the layer	PLO 1.1 & PLO 1.4
2	Skills :	
2.1	Demonstrate the ability to design and evaluate computer networks	PLO 2.1 & PLO 2.2
2.2	Solve problems in the context of computer networks	PLO 2.3 & PLO 2.4
3	Values:	
3.1	Show the self-managements to meet deadlines	PLO 3.1

C. Course Content

No	List of Topics	Contact Hours
The Basics of Communication		
1	Data Communication, Communication Model, Telecommunication, Channel, Circuit, Network, Transmission Modes, Signal Types – Digital, Analog.	8
2	Types of Network – Circuit Switch, Packet Switch. Signaling Techniques – Baseband, Broadband. Attenuation, Interference, Transmission Media Types.	7
3	IPv4 Addressing, IPv6 Addressing, Message Delivery Methods – Multicast, Broadcast, Unicast.	6
4	Network Architecture. Network Standards, Electronic Data Interchange, OSI Model, TCP/IP Model	8
Network Basics		
5	Network Topology – Bus, Ring, Star, Client-Server Architecture. Congestion Avoidance and Detection. Network Equipment	6
6	Forms of Network - PAN, LAN, CAN, MAN, WAN, GAN, SAN, NAS. Asynchronous Communication, Synchronous Communication. Error Detection Methods.	6
The Internet		
7	Internet, Intranet, Extranet, Network Protocols – HTTP, DNS, DHCP.	6
Network Management and Control		
8	Network Management, Service Management, Risk Management, Security Management, Performance Management, Change Management, Capacity Management, Disaster Planning.	6
Network Security		
9	Network Security, Types of Threats – Active, Passive	5
Project		
10	Mini Project discussion	2

D. Teaching and Assessment

1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.0	Knowledge and Understanding		
1.1	Recognize what is meant by a computer network, and to be able to describe some of the advantages and disadvantages of using them	<ul style="list-style-type: none"> Lectures Discussion Active collaborate learning Open ended problems and	_ Homework assignments - Presentation by the students - In class short MCQs quizzes - Two Mid Terms and Final Examination
1.2	Define what is meant by a LAN and a WAN and understand the differences between peer-to-peer and server-based networks, and know when it is appropriate to use each type.	<ul style="list-style-type: none"> Lectures Discussion Active collaborate learning Open ended problems and	-Homework assignments - Presentation by the students - In class short MCQs quizzes - Two Mid Terms and Final Examination
1.3	List and able to describe the 4 basic types of network topology, and understand the difference between a physical and logical topology	<ul style="list-style-type: none"> Lectures Discussion Active collaborate learning Open ended problems and	-Homework assignments - Presentation by the students - In class short MCQs quizzes - Two Mid Terms and Final Examination
1.4	Explain the function of each layer in the OSI and the device and protocols in the layer	<ul style="list-style-type: none"> Lecture Discussion Demonstration 	-coursework
2.0	Skills		
2.1	Demonstrate the ability to design and evaluate computer networks	<ul style="list-style-type: none"> Lecture Projects 	Assignments, Exams, Projects Evaluation
2,2	Solve problems in the context computer networks	<ul style="list-style-type: none"> Solving problems in groups Write group reports 	_ Evaluation of individual work -Grading homework assignments
3.0	Values		
3.1	Show the self-management to meet deadlines	<ul style="list-style-type: none"> Solving problems in groups Write group reports 	-Evaluation of individual work -Grading homework assignments

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Midterm exam 1	5 th	15%
2	Midterm exam 2	10 th	15%
3	Quizzes	4 th , 8 th , and 10 th	10%
4	Assignments	4 th , 7 th , and 9 th	10%
5	Mini Projects	11 th	10%
6	Final Exam		40%

*Assessment task (i.e., written test, oral test, oral presentation, group project, essay, etc.)

E. Student Academic Counseling and Support

Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice :
Office hours ,6 hr/ week

F. Learning Resources and Facilities

1. Learning Resources

Required Textbooks	Curt White, Data Communications and Computer Networks: A Business User's Approach, 8th edition, Cengage Learning, 2015
Essential References Materials	<ul style="list-style-type: none"> ◆ William Stallings , Business Data Communications, Prentice Hall,6 E , 2012 ◆ Andrew S. Tanenbaum and David J. Wetherall, Computer Networks, Fifth Edition, Pearson, 2012 ◆ Larry L. Peterson and Bruce Davie, Computer Networks, Morgan Kaufmann, 5th Edition, 2011 ◆ James F. Kurose, Keith W. Ross, Computer Networking: A Top-Down Approach Featuring the Internet, Addison Wesley, 2000 (on-line book: http://www.awl.com/kurose-ross) ◆ William Stallings, Data and Computer Communications, 10th Edition, Pearson, 2013
Electronic Materials	List Electronic Materials, Web Sites, Facebook, Twitter, etc.
Other Learning Materials	<ul style="list-style-type: none"> ▪ http://www.awl.com/kurose-ross ▪ Course related websites

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	<ul style="list-style-type: none"> ▪ Laboratory with 25 seats ▪ Computer with internet connection and unique data sets for each students depending on the class size.

Item	Resources
Technology Resources (AV, data show, Smart Board, software, etc.)	<ul style="list-style-type: none"> • Data show • Blackboard
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	<ul style="list-style-type: none"> • Lecture slides • Reference Book • A Note Book for writing notes

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Student Feedback on Effectiveness of Teaching	student	Survey through the Monkey portal
Peer-Observation	A senior faculty from the college	The evaluator visits the class and observes at least 2-3 classes during the entire semester
Self-Assessment	course report	The course report is discussed at the DC/CC for further improvement.

Evaluation areas (e.g., Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes, Quality of learning resources, etc.)

Evaluators (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify))

Assessment Methods (Direct, Indirect)

H. Specification Approval Data

Council / Committee	Department Council
Reference No.	2
Date	SEP 2022