Kingdom of Saudi Arabia

Ministry of Higher Education

Najran University

College of Computer Science and Information Systems

المملكة العربية السعودية

وزارة التعليم العالي

جامعة نجران

كلية علوم الحاسب ونظم المعلومات

College of Computer Science and Information Systems

Course Code : 329CSS-3

Contact Hour : 3(0)

Department of Computer Science

Data Communication and Computer Networks

Prerequisite : 227CSS-3

Coordinator -

2. Course Description
The course will cover the following terms and concepts:
1- Overview of Computer Networks,
2- Communication models (OSI layer model, TCP/IP layer model),
3- Network Types,
4- Network Addressing
5- Network Protocols
6- Routing Concepts
7- Network Devices
8- Transmission Mediums
9- Network Performance Management

3. Course Learning Outcomes

SL	By the end of this course, students should be able to:	Linkages to POs
1.	Explain the key terminologies and concepts of data communications and networking	a(S)
2.	Illustrate the services and features of the various network layers	a(W),b(W),j(W)
3.	Classify the network protocols, devices, Mediums and types that can be used in a real world network	b(W),c(W),i(W)
4.	Analyze the Network Performance Management issues	b(W),i(W),j(W)
5.	Design different types of networks based on IP classes and network topologies.	c(W),i(W),j(W)
6.	Setup different types of network using proper network simulator	i(W),j(W),k(W)
7.	Troubleshoot the network errors in real world environment	b(S)

4. Learning Resources

Text	B.A. Forouzan, Data Communications and Networking, fourth edition, McGraw â€" Hill
Reference	William Stalling, Data and computer communications, Seventh edition, Prentice Hall,
Reference	Tanenbanum A., Computer Networks, Seventh edition., Prentice Hall
Reference	Stallings, W., Data and computer communications, Seventh edition, Prentice-Hall

5. Course Content : The list below provides a summary of the material that will be covered during the course

Week	Topics	References Book / Others Source	Special Event	Tutorial Activities	Lab Activities
1.	Introduction to computer networks	Chapter 1- Section 1.1			
2.	Physical Topology	Chapter 1- Section 1.2-1.4, 1.6, 1.7			
3.	OSI model	Chapter Section 2.1-2.3	Quiz 1		Lab Activity 1

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4.	TCP/IP protocol suit	Chapter 2- Section 2.4-2.5, 2.7, 2.8	Assignment 01		Lab Activity 2
5.	TCP/IP Protocol Suit	Chapter 2- Section 2.4-2.5, 2.7, 2.8			Lab Activity 3
6.	IPv4 Addresses	Chapter 3- Section 3.1-3.4, 3.8, 3.9, Chapter 4 - Section 4.1-4.	Mid Exam 1		Lab Activity 4
7.	IP Addressing	Chapter 19,20			Lab Activity 5
8.	Network Performance Management	Chapter 3, 28	Assignment 2		Lab Activity 6
9.	Data transmission Media	Chapter 7	Quiz 2		Lab Activity 7
10.	Network Devices		Mid Exam 2		Lab Activity 8
11.	Network Types	Chapter 10,11			Lab Activity 9
12.	Network Layer and Routing	Chapter 25- Section 25.1-25.4			Lab Activity 10
13.	Network Layer and Routing	Chapter 26- Section 26.1-25.3, Chapter 27- Section 27.1-27.3			Lab Activity 11
14.	Theory Revision		Final Lab Exam		

6. Evaluation Scheme: The following list is the contribution of course components to the final grade for the course.	
Component	**Weight (%)**
Quiz 1	2.5
Quiz 2	2.5
Mid Term 1	12.5
Mid Term 2	12.5
Assignment 1	2.5
Assignment 2	2.5
Term Project	5
Lab Performance	10
Lab Final	10
Final Exam	40
Total	100