

Course Outline

CSNB213

DATA COMMUNICATION & COMPUTER NETWORKS

Semester 3 2011/2012

Credit Hours: 3 (Three)

Lecturer: Azimah Abdul Ghapar
BW-4-C12
azimah@uniten.edu.my
<http://metalab.uniten.edu.my/~azie>
03-89212328

Lectures:

CSNB213 Section 3

Day	Time	Room
Tuesday	1100 - 1300	BW-G-R05
Thursday	1100 - 1200	BW- G-R05

Course Descriptions:

This course aims at giving the students the general understanding on the concepts of data communication computer networks.

Objectives of the Course:

This course aims to:

1. Describe the main functions of each layer in the OSI and TCP/IP model.
2. Describe the key protocols in the TCP/IP protocol stack.
3. Calculate IPv4 subnet information.
4. Describe the Ethernet standard.
5. Describe the common physical media used in data communication

Course Outcomes:

At the end of this course, students should be able to:

1. Name and describe the functions of each layer in the OSI and TCP/IP model.
2. Name and describe the functions of key protocols in the TCP/IP protocol stack.
3. Calculate IPv4 subnet information.
4. Describe the characteristics and functions of the Ethernet standard.
5. Describe the characteristics of the physical media commonly used in data communication.

Course Contents and Weekly Schedule:

Week	Topic	Chapter	Activity
<p>1 30/01/12 -05/02/12</p>	<p>Course Outline Distribution Living in a Network-centric World</p> <ul style="list-style-type: none"> • Communication in a network-centric world • Communication: an essential part of our lives • The network as a platform • The architecture of the Internet • Trend in networking 	1	
<p>2 06/02/12 -12/02/12</p>	<p>Communicating over the Network</p> <ul style="list-style-type: none"> • The platform for communications • LANs, WANs and internetworks • Protocols • Using layered models • Network addressing 	2	
<p>3 13/01/12 -19/02/12</p>	<p>Application Layer Functionality and Protocols</p> <ul style="list-style-type: none"> • Applications: the interface between the networks • Making provisions for applications and services • Application layer protocols and services examples 	3	Quiz 1
<p>4 20/02/12 -26/02/12</p>	<p>OSI Transport Layer</p> <ul style="list-style-type: none"> • Roles of the transport layer • TCP: communicating with reliability • UDP: communicating with low overhead 	4	
<p>5 27/02/12 -04/03/12</p>	<p>OSI Network Layer</p> <ul style="list-style-type: none"> • IPv4 • Networks: dividing hosts into groups • Routing: how data packets are handled • Routing processes: how routes are learned 	5	Quiz 2
<p>6 05/03/12 -11/03/12</p>	<p>Addressing the Network: IPv4</p> <ul style="list-style-type: none"> • IPv4 addresses • IPv4 addresses for different purposes • Assigning addresses • Calculating addresses 	6	
<p>7 12/03/12 -18/03/12</p>	<p>Addressing the Network: IPv4 (cont)</p> <ul style="list-style-type: none"> • Calculating addresses • Testing the network layer 	6	Quiz 3
<p>8 19/03/12 -25/03/12</p>	<p>OSI Data Link Layer</p> <ul style="list-style-type: none"> • Data link layer: accessing the media • MAC techniques: placing data on the media • MAC: addressing and framing the data 	7	Mid Term Exam

Week	Topic	Chapter	Activity
9 26/03/12 -01/04/12	OSI Physical layer <ul style="list-style-type: none"> Physical layer: communication signals Physical signaling and encoding: representing bits Physical media: connecting communication 	8	
10 02/04/12 -08/04/12	Ethernet <ul style="list-style-type: none"> Overview of Ethernet Ethernet: communication through the LAN Ethernet frame Ethernet MAC 	9	
11 09/04/12 -15/04/12	Ethernet (cont) <ul style="list-style-type: none"> Ethernet physical layer Hubs and switches Address resolution protocol (ARP) 	9	
12 16/04/12 -22/04/12	Planning and Cabling Networks	10	Quiz 4
13 23/04/12 -29/04/12	Configuring and Testing Your Network	11	
14 30/04/12 -06/05/12	Configuring and Testing Your Network (Cont...)	11	
15 & 16 07/05/12 - 16/05/12	FINAL EXAMINATION WEEK		

Text book:

Main	Mark A. Dye, Rick McDonald, Antoon W. Ruff, Network Fundamentals – CCNA Exploration Companion Guide, Cisco Press 2007.
Reference	<ol style="list-style-type: none"> Kurose, Ross. Computer Networking: A Top-Down Approach Featuring the Internet, 5th Edition, Addison-Wesley, 2007. Stallings W., Data and Computer Communication, 8th. Edition, Prentice Hall, 2007.

Assessment:

Types of Assessment	Percentage (%)	Remark
CCNA	30	<ul style="list-style-type: none">• 10% - CCNA Online Quizzes• 10% - Practical• 10% - Final CCNA
Assignments / Quizzes	10	<ul style="list-style-type: none">• Minimum of 4 written quizzes
Mid-Term	20	Tentatively in Week 8
Final Exam	40	

Academic Calendar:

	Start Date	End Date	Duration
Lecture	30 Jan 12	6 May 12	14 weeks
Final Exam	7 May 12	16 May 12	2 weeks

Class Policies:

1. Dress in proper attire corresponding to Universiti Tenaga Nasional dress code.
2. Attendance is compulsory and will be taken regularly.
 - Attendance for less than 80% of the lectures will result in students being barred from taking the Final Exam.
3. If you are absent from lecture due to
 - sickness : **MC is required**
 - emergency : **letter of guardian is required**Any MC or letter should be given to the lecturer **on the next day**
4. There will be **NO make-up Mid Term Exam**. If you are absent with a valid reason (as in policy 3), the 20% will automatically be added to your final exam.
5. The lecturer reserves the right to give pop-quizzes whenever deemed appropriate. Latecomers will not get extended time.
6. Cheating and any attempt thereto will not be tolerated and penalized according to the seriousness of the offense.
7. All assignments must be submitted on time. Deducted of 25% of marks or ZERO mark will be given for the late submitter.