School of Information Technology
International Business College

7 Greenfield Parade
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Internet Technologies

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Aim of Unit:

This unit develops an understanding of Internet Technologies and applications, and demonstrates proficiency in internetworking and its management. This unit will cover the network technologies including introduction to Internet, OSI reference model layers, protocols and services, data transmission, interface standards, network topologies, data link protocols, message routing, LANs, WAN, TCP/IP suite, detailed study of common network applications (e.g., email, news, FTP, Web), network management, network security, current and future developments in network hardware and protocols.

Unit Outline:

- Overview Data Communications, Networking and Protocol Architecture.
- Explain Data Communications.
- Wireless Transmission.
- Signal Encoding Techniques.
- Data Link Control, Multiplexing.
- Spread Spectrum.
- Describe Wide Area Networks.
- Cellular Wireless Networks.
- Local Area Networks.
- High-Speed LANs and Wireless LANs.
- Communications Architecture and Protocols.
- Internetwork Protocols.
- Network Security.

Mode of Delivery:

Two hours lecture per week.
One hour tutorial per week.

Unit Assessment:

Assignments	20 %
Mid-Semester Test	20 %
Final Examination	60 %

Assessment Requirements:

Students must receive 50% or more for each part of Unit Assessment in order to pass the subject.

Student Workload:

Students will have 3 hours per week face-to-face learning during semester.
Students are expected to work at least 5 hours per week out of class.

Text Book:

1. William Stallings, "Data and Computer Communications", 7th edition, Prentice-Hall Inc., 2003

Recommended References:

1. Tanenbaum A. S., "Computer Networks", 4th edition, New Jersey, Prentice Hall, 2003
2. Halsall Fred, "Data Communications, Computer Networks and Open Systems", 4th edition, Addison-Wesley, 1996

Subject Schedule

Weeks	Lecture/Tutorial Topics	Assignments	Reading from Text Book
1	Overview Data Communications and Networking, Protocol Architecture	Assignment #1	Chapters 1,2
2	Data Transmission.	Assignment #2	Chapter 3
3	Guided and Wireless Transmission	Assignment #3	Chapter 4
4	Signal Encoding Techniques	Assignment #4	Chapter 5
5	Digital Data Communication Techniques	Assignment #5	Chapter 6
6	Data Link Control	Assignment #6	Chapter 7
7	**Mid-Semester Test** Multiplexing	Assignment #7	Chapter 8
8	Spread Spectrum	Assignment #8	Chapter 9
9	Wide Area Networks, Cellular Wireless Networks	Assignment #9	Chapter 14
10	Local Area Network, High-Speed LANs, Wireless LANs	Assignment #10	Chapters 15,16,17
11	Internetwork Protocols, Internetwork Operation	Assignment #11	Chapters 18,19
12	Network Security, Distributed Applications	Assignment #12	Chapters 21,22
13	Revision		
14	**Final Examination**		