Introduction to Data Networks (Spring 2010)

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Class hours: Mon, Wed 2:00-3:15PM (302 동 408 호) Office hour: Mon 3:15-4:15 (525 호)
Course material: http://netlab.snu.ac.kr

COURSE OBJECTIVES:
The main goal of this course is to introduce the layering architecture of data networking in detail. Data communication concepts, issues, and technology will be discussed. Then, internetworking, end-to-end session control, and communication applications are the main topics. In other words, the course will cover physical layer and data link layer, network layer, transport layer, and application layer in detail. This course will focus on principles and concepts although specific protocols and systems will be briefly covered as examples. Topics will include an overview of the various aspects of modern data and telecommunications, the hardware and software facets of the transmission of information in the forms of voice, data, and multimedia. The objectives of this course are three-fold:
1. Becoming familiar with state-of-the-art data communication technology.
2. Studying basic principles of data communication protocol layers.
3. Learning the basic concepts of protocol performance modeling and evaluation.

TEXTBOOK

COURSE OUTLINE:
2. Layering architecture
3. Socket programming/Digital transmission
4. Encoding, Error detection and correction.
5. Multiplexing and switching, telephone network
6. Peer-to-peer protocols: ARQ and data link control
7. No class on Apr 12, Midterm exam on Apr. 14.
8. Media access control protocols
9. LAN
10. Wireless LAN
11. WAN/Routing
12. Congestion control
13. IP Routing protocols: IPv4 and IPv6
15. TCP Congestion control

EVALUATION
1. 10% - attendance
2. 20% - homework assignments
3. 30% - mid-term
4. 40% - final exam