CS4122 Data Communications & Computer Networks II, Section A

Semester	Spring 2009
Class Room	TBD
Prerequisite	CS4121
Course Objective	This course aims at synchronizing students with several *advanced* areas in data communications and computer networks, including Ethernet and CSMA/CD protocol, FDDI and timely token passing, ATM and leaky-bucket cell admission control, wireless/mobile networks and mobility management principles, multimedia networking and video streaming, network security and data cryptography, etc. Students are exposed to the underlying theory, algorithms, and protocols in ***details***, sometimes down to the bit level. Networking-related problem analysis, TCP/IP and UDP/IP socket programming in Java, presentations (on some general topics of networking) are the three major components in this class.

Learning Outcomes

On successful completion of this course, the student should be able to

1. Describe the fundamental principles and core mechanisms in advanced areas like Ethernet, FDDI, ATM, wireless networking, multimedia networking, network security, etc.
2. Apply such principles in analyzing real-world protocols rigorously, even some of which may not be familiar.
3. Accomplish client-server projects using TCP/IP and UDP/IP sockets in Java. Beyond basic socket programming, they are also fluent in coding message framing (encoding) and parsing (decoding), multithreaded server, and thread pooling.
4. Communicate networking ideas using correct representation in both written and oral forms.

Instructor	Dr. Zhiguang Xu
Office	2159, Nevins Hall
Office Hours	TBD
Phone	229-333-5783
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Textbook(s) *Computer Networking, A Top-Down Approach featuring the Internet, 2nd edition* (Required)

By James F. Kurose, and Keith W. Ross
Publisher: Addison-Wesley
ISBN: 0-201-97699-4

TCP/IP Sockets in JAVA, Practical Guide for Programmers (Required)
By Kenneth L. Calvert and Michael J. Donahoo
Publisher: The Morgan Kaufmann Publishers
ISBN: 1-55860-685-8

Course Coverage

Part I Ethernet and CSMA/CD
[Kurose chapter 5, and supplement material]
FDDI [supplement material]
ATM
[supplement material]
Wireless and Mobile Networks
[Kurose chapter 6, and supplement material]
Multimedia Networking
[Kurose chapter 7, and supplement material]
Security in Netwoks
[Kurose chapter 8, and supplement material]

Part II Internet and TCP/IP
[Calvert chapter 1 ~ 4 and supplement material]

Part III Presentations

Grading Policy Your grade will be evaluated based on

- About 8 Exercises 80%
- Presentation and Report 20%

Grading scale:

Final Grade	*Credit*
A	90-100 (including 90)
B	80-89 (including 80)
C	70-79 (including 70)
D	60-69 (including 60)
F	0-59

Course Policy

For the sake of course efficiency, please observe the following rules

- Late assignment will NOT be accepted. You must turn in assignments at the beginning of the class on the due date.
- Absolutely No Cheating on tests and/or final exam. It can result in total dismissal from VSU.

Attendance and Absence

- You are expected for every scheduled class meeting (be on time and stay for the full class period).
- Try every effort to attend the tests because there is NO make up test.

ADA

Students requiring classroom accommodations or modifications because of a documented disability should discuss this need with me at the beginning of the semester. For additional information, please contact the Special Service Program in Room 1115 Nevins Hall. The Special Services office may be reached by telephone at 229-245-2498.

Important Dates

TBD