

CS 471 Computer Networks – Section A

Spring 2013

Course Outline

Instructor: Dr. Bushra Anjum

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Office Hours: Tuesday and Thursday 12:00 – 1:00 pm

Objective of the Course

The objective of this course is to introduce the principles and practices of Computer Networking, specifically focusing on the Internet. By the end of the course, students should be able to:

- Write simple client-server applications in C/C++
- Understand the anatomy of the Internet
- Understand the design of networking stack
- Create foundation for more advanced courses in computer networks

Text Book

Computer Networking: A Top Down approach featuring the Internet
Computer Networks (reference book)

James F. Kurose and Keith W. Ross
Andrew Tanenbaum

Course Outline

Module	Week	Reference Text
Introduction and Overview Basic Concepts of Networking Circuit switching Packet switching Multiplexing (TDM, FDM) Throughput and delay Internet Architecture Protocol Layering	1	Chapter 1 Supplement text from Tanenbaum
Application Layer Network application architectures HTTP, FTP, Email, DNS P2P applications Writing network applications The C socket API	2	Chapter 2
Transport Layer Multiplexing in UDP and TCP Connectionless Transport: UDP Reliable data transfer and TCP Congestion avoidance and control	3-5	Chapter 3
Network Layer The Internet Protocol Routing algorithms Routing protocols X.25, Frame relay and ATM MPLS	6-9	Chapter 4
Physical & Link Layer Functionalities Error Detection & Control, ARQ Link layer addressing Bridges and Hubs LAN Technologies Multiple Access	10-15	Chapter 5 Supplement text from Tenanbaum

Evaluation

Assignments/ Quiz(s)	15%
Lab	25%
Mid Exams	25% (10% + 15%)
Final Exam	35%
Total:	100 %

Course Policies

- *In order to pass this course, you must score at least 50% marks absolute (there will be no scaling).*
- *The grade 'A' stands at 90% absolute. (there will be no scaling)*
- *Grades Ds, Cs, Bs and A- will be awarded relatively starting from 50% and ending at 89%*
- *Important: Though weightages of different course components are the same, grade assigning policy (or threshold) of other sections may or may not be the same. So please do not waste your or my time by bringing in comparisons.*
- *Lecture contents will comprise the course material. It is the student's responsibility to obtain lecture contents in case he/she misses a class.*
- *Assignment deadlines are hard. Please don't embarrass yourselves by asking for extension.*
- *Integrity in the assignments/quizzes is expected, otherwise result would be an F grade in the course.*
- *NO Cell Phone usage in class, they must be turned off at all times (rule applies to me too). If a phone rings in class, first penalty: the student should him/herself leave room for the duration of the lecture. Second penalty: we will get creative. If mine rings, all present will get 1 absolute free point in your score (not going to happen if I can help it!).*
- *Quizzes will be unannounced. We may have any number of quizzes at any time during the semester (may be back to back in a single day!). Quizzes are collected randomly (sometimes from everyone, sometimes from a random select group). Only the group collected will be evaluated for a particular quiz, all others score full marks.*
- *There will be no retake of quizzes or exams. If you lie in the group whose quizzes are collected and you were absent that day, you will score a 0. For example, if the group with even roll numbers is collected, anyone having an even roll number not present that day will get a 0, anyone with an even roll number who attempted the quiz will get his/her quiz marked, and marks assigned accordingly, and all students with odd roll numbers will score full.*
- *Special consideration may be given only for mid or final exam for an emergency on per case basis. In approved circumstances, percentage of mid will be awarded for final or vise versa.*
- *You are welcome to email me any course related queries any time during the semester. However, I reserve the right 'not' to respond to any emails within 24 hours of the midterm or final exam. Make sure you have your questions/concerns answered before that.*
- *"Mutual Respect" and "Discipline" are the corner stones defining the environment of this class. They will not be compromised by anyone under any circumstances.*