

CIS 677

Computer Networks

Raj Jain
The Ohio State University
Columbus, OH 43210
Jain@CIS.Ohio-State.Edu
<http://www.cis.ohio-state.edu/~jain/cis677/>



- How
- What
- When
- Why



- How am I going to grade you?
- What are **we** going to cover?
- When are **you** going to do it?
- Why you should **not** take this course?

Grading

- | | |
|--|-----|
| <input type="checkbox"/> Quizzes (Best 2 of 3) | 50% |
| <input type="checkbox"/> Class participation | 10% |
| <input type="checkbox"/> Homeworks | 20% |
| <input type="checkbox"/> Labs | 20% |

Answers to Frequently Asked Questions

- ❑ Yes, I do use “curve”. Your grade depends upon the performance of the rest of the class.
- ❑ All homeworks are due at the beginning of the next class.
- ❑ All late submissions must be preapproved.
- ❑ All quizzes are open-book and extremely time limited.
- ❑ Quizzes consist of numerical as well as multiple-choice (true-false) questions.
- ❑ There is negative grading on incorrect multiple-choice questions.
- ❑ First few chapters are quantitative (lots of calculations)
- ❑ Everyone including the graduating seniors are graded the same way.
- ❑ If you have any questions about grading, please ask now.

Textbook

- ❑ A.S. Tanenbaum, “Computer Networks,” **3rd Edition**, Prentice-Hall, ISBN 0-13-349945-6, 1996.

Prerequisite

- ❑ CIS 675: Computer Architecture
 - ❑ Memory
 - ❑ System bus
 - ❑ Interrupt
 - ❑ Power
 - ❑ Voltage
 - ❑ Current
 - ❑ Peak and RMS values
 - ❑ Sine curve
 - ❑ Amplitude, Frequency, Phase
- ❑ CIS 459.21: C Programming

Tentative Schedule

- ❑ 10/1/96 Chapter 1: Introduction
- ❑ 10/3/96
- ❑ 10/8/96* Chapter 2: The Physical Layer
- ❑ 10/10/96
- ❑ 10/15/96* Quiz 1
- ❑ 10/17/96 Chapter 3: The Datalink Layer
- ❑ 10/22/96*
- ❑ 10/24/96
- ❑ 10/29/96
- ❑ 10/31/96 Chapter 4: The Medium Access Layer

Tentative Schedule (Continued)

- ❑ 11/5/96 Quiz 2
- ❑ 11/7/96*
- ❑ 11/12/96 Chapter 5: The Network Layer
- ❑ 11/14/96
- ❑ 11/19/96 Chapter 6: The Transport Layer
- ❑ 11/21/96 Final Lab due
- ❑ 11/26/96 Quiz 3
- ❑ 11/28/96 Thanksgiving Holiday
- ❑ 12/3/96* Last class
- ❑ 12/5/96 Graduating Seniors Grades Due

* Class conducted by the assistant

What Is This Course About?

- ❑ This is a course on Networking Architecture
- ❑ This is not a course on network building or usage
- ❑ You will be able to understand protocols
- ❑ You will not be able to build or use a Novell Netware network
- ❑ An example of the difference between architecture and implementation is the computer architecture course and a course on Intel Pentium Chip.
- ❑ An example of the difference between implementors and users is that of Pentium chip designers and the rest of us.

What Is This Course About? (Continued)

- ❑ You will learn about networking concepts that will help you understand networking jargon:
 - ❑ TCP/IP
 - ❑ Window Flow Control
 - ❑ Cyclic Redundancy Check
 - ❑ Parity
 - ❑ Start and Stop Bits
 - ❑ Baud, Hertz, and Bits/sec
 - ❑ Algorithms for determining packet routes
- ❑ This is the **first** course on networking.
We cannot cover everything in 10 weeks.

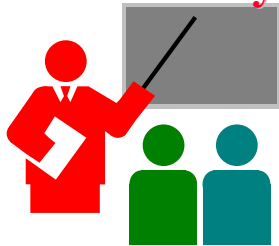
Why You Shouldn't take this course?

- ❑ You aren't ready for the hardwork
- ❑ You don't have 15 hours/week
- ❑ You don't have the background
- ❑ You just want to sit and listen
- ❑ You are not ready to take the initiative
Only key concepts will be covered in the class.
Students are expected to read the rest from the book.
- ❑ This does not cover what you want

Office Hours

- Tuesday: 10:00 to 11:00 AM
Thursday: 10:00 to 11:00AM
- Office: 297 Dreese Lab, 2015 Neil Ave
- No office hours on 10/8, 10/10, 10/15, 10/28, 11/7, 12/3

Summary



- There will be a lot of self-reading
- Goal: To prepare you for a career in networking
- Get ready to work hard

Quiz 0: Prerequisites

True or False?

T F

- A system with 32kB memory can hold only 16000 ASCII characters
- An example of an I/O bus is PCI which connects a Pentium processor with its memory.
- An example of a system bus is SCSI which connects a PC system with its disks.
- Interrupts are used by CPU to stop an ongoing I/O.
- A DC current of 4 Ampere at 5 Volts will require 4/5 Watts of power
- An RMS value of 100 Volts is equivalent to a peak value of 141.4 V.
- For $I = A \sin(2\pi ft + \phi)$, the amplitude of the current I is A
- For $I = A \sin(2\pi ft + \phi)$, the frequency is f.
- If x is 0, then after x++, x will be 1.

Marks = Correct Answers _____ - Incorrect Answers _____ = _____

The Ohio State University

Raj Jain