

Computer Networking CS 450

Spring 2005

Course Objectives

- To develop an understanding of basic computer networking terminologies and concepts.
- To understand the practical realities of data transmissions and their implications in computer networks.
- To understand the concepts of addressing and routing of data packets.
- To be able to implement basic networking applications such as client-server communication, email and web browsing services, and chat facility.
- To understand the concept of internetworking of heterogeneous computer systems.

Course Description

Study of computer interconnection and protocols with emphasis on network layers, error detection/correction, data transmission and compression, and topologies. *Prerequisite: CS350.*

Software Used to Support the Course

Forte IDE 4.0 and Java

Course Materials

Computer Networks 4th Edition, by Andrew S Tanenbaum. ISBN 0-13-066102-3. Prentice-Hall Publishing, 2003.(Required)

3.5" HD Floppy disk (Required)

Lecture notes, project descriptions, homework problems, and frequently asked questions (FAQ) about the course materials are freely accessible through the web at the URL address:

<http://cs.jsu.edu/mcis/faculty/gfrancia/cs450>

A collaborative learning website is available at the URL address:

<http://mcis2.jsu.edu>

Course Outline

Weeks 1-5: Introduction to Computer Networks. Network Programming and Applications. The Physical Layer. Transmission Media. The Data Link Layer. Error Detection and Correction. Data Link Protocols. UDP Programming. **Test 1.**

Weeks 6-10: Medium Access Control Sublayer. Ethernet. Wireless LANs. Bluetooth. Data Link Layer Switching. The Network Layer. Routing Algorithms. Congestion Controls. Multicast Programming. **Test 2.**

Weeks 11-14: Internetworking. Quality of Service. The Transport Layer. TCP/IP Protocols. Network Security. Cryptography, Authentication Protocols. Research Paper presentation. **Final Exam.**

Grading Policy

Test 1	25.0%
Test 2	25.0%
Research Paper/Presentation	10.0%
Homeworks/Projects	15.0%
Final Exam	25.0%

Letter Grade	Points Earned (%)
A	90 - above
B	80 - 89
C	70 - 79
D	60 - 69
F	below 60

Course Policy

To take a make-up exam, a student must have a legitimate reason for having missed the exam. No student, regardless of the reason, may take more than two make-up exams. It is the responsibility of the student to request a make-up exam. No make-up will be given on any missed pop test. Be prepared to take the makeup exam as soon as you return to class.

All homework assignments are to be turned in at the beginning of class on the due date. Late homework will be charged 10% deduction per day. The weekend counts 1 day late penalty. No homework will be accepted more than a week late or when the solution has been handed out in class. No project will be accepted after the last day of class.

LEGITIMATE REASONS:

1. sickness or emergency
2. participation in a scheduled University event of which the instructor have been given prior notice

3. other reasons with instructor approval prior to the exam.

Students must adhere to the University Policy on Academic Honesty as specified in the JSU Student Handbook.

You are not limited to a fixed number of cuts in this class. However, roll will be taken and attendance and participation in each class is expected. A 100% attendance is strongly recommended.

Any student receiving a failing grade on any assignment or exam is urged to talk to the instructor.

Make every effort to use proper English on exams and assignments.

Any individual who qualifies for reasonable accommodations under the Americans With Disabilities Act or Section 504 of the Rehabilitation Act of 1973 should contact the Instructor immediately.

All students are expected to attend class fully prepared with appropriate materials and all devices which make noise turned to the off position (e.g., cellular phones, pagers, personal stereos, etc.). Any student behavior deemed disruptive by the professor will result in expulsion of the student from the classroom and possible disciplinary action.

Final Examination Schedule

April 26, 2005 Tue 0800-1000

Instructor

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Office Hours: 0930-1300 MW,

1100-1300 TTh or by appointment