Communication Protocols and Internet Architectures
Harvard University Extension School
CSCI E-131b, Fall 2007

Lectures: Monday nights, 7:35-9:35 p.m.
1 Story Street, Room 304
This building is directly across the street from 51 Brattle Street.

Distance Ed: This course is part of the Extension School's Distance Education Program. The lectures, which are given at Harvard each week, will be recorded and made available to all registered students via the Internet. Please see the distance education website for details on the program:
http://www.extension.harvard.edu/distanceed

Instructor: Len Evenchik
Lecturer in Extension
Harvard University
51 Brattle Street
Cambridge, MA 02138-3722
Phone 617-496-6021
evenchik@fas.harvard.edu

Web Site: http://courses.dce.harvard.edu/~cscie131b/

Sections: Time and location will be posted on the course web site.

Textbooks and Readings:

1. Computer Networks - Required Textbook
   Andrew S. Tanenbaum

2. Protocol specifications and other material will also be used this term.
   Pointers will be available on the course web site.

Assignments and Grading:
There will be 5 homework assignments (approximately 30% of the grade), a midterm (approximately 30%) and a final exam (approximately 40%).

CLASS SCHEDULE

Lecture #1, Sept. 17, 2007
Topics: Network Models and Network Architectures,
Protocol Design Issues, Transmission and Multiplexing

Lecture #2, Sept. 24, 2007
Topics: Design and Analysis of Link Level Protocols
Protocol Functionality, Layering and Framework (SP3)

Lecture #3, Oct. 1, 2007 Homework #1 due
Topics: IETF and the Internet Standards Process
LAN Design, Architectures and Protocols (802.xx)
Communication Protocols and Internet Architectures  
CSCI E-131b, Fall 2007

No lecture, Oct. 8, 2007    Columbus Day Holiday

Lecture #4, Oct. 15, 2007    
Topics:   LAN Implementation, Ethernet Switching  
           Internet Protocol (IP) Design, Internet Addressing

Lecture #5, Oct. 22, 2007    Homework #2 due
Topics:   IP Protocol Implementation, Internetworking and Routing

Lecture #6, Oct. 29, 2007    
Topics:   Transport Layer Protocol Design  
           TCP/UDP Analysis and Implementation

Lecture #7, Nov. 5, 2007     Homework #3 due
Topics:   Network Address Translation (NAT)  
           WAN Architecture and Protocols

No lecture, Nov. 12, 2007    Veterans Day Holiday

Lecture #8, Nov. 19, 2007    In-Class Exam
In-class, closed-book, two hour exam will be held at Harvard for all students in New England. Distance education students will need to have their exam proctored where they live; logistics information for this will be available on the course website.

Lecture #8, Nov. 26, 2007    
Topics:   Application Layer Protocols,  
           Email, Telnet, HTTP and Peer-to-peer

Lecture #10, Dec. 3, 2007    
Topics:   Domain Name System (DNS),  
           Network Security (part 1)

Lecture #11, Dec. 10, 2007    Homework #4 due
Topics:   Network Security (part 2)

Lecture #12, Dec. 17, 2007    
Topics:   Management of Large Email Systems  
           Wireless Networks and Protocols

Lecture #13, Jan. 7, 2008     Homework #5 due
Topics:   IP Telephony and Internet Video  
           Network Quality of Service (QoS)

Lecture #14, Jan. 14, 2008    In-Class FINAL EXAM
In-class, closed-book, two hour exam will be held at Harvard for all students in the New England area. Logistics information for proctored exams will be available on the course website for distance education students.

(Page 2 of 2, September 15, 2007, Note that this syllabus will be updated during the term.)