

CS4254: Network Architecture and Programming

Srinidhi Varadarajan
Fall 2004

Class Details

- **Instructor:**
 - Dr. Srinidhi Varadarajan
 - Office Hours: 10 am – 11:00 am Mon-Wed
- **GTAs:**
 - John Gordon (logordo3@vt.edu)
 - Varun Pandey (vnpandey@vt.edu)
 - Office Hours Location: McB 118
 - Office Hours: M - F 6-7 pm
- **Class:**
 - Meeting: 12:30 pm – 1:45 pm, Tu-Th, Hutcheson 409
- **Electronic Discussion:**
 - forum.cs.vt.edu
 - Register at this site and use the CS4254 section for public postings.
 - Class listserv will be used for announcements. You will be automatically added to the listserv.

Goals

- Explain basics of computer communication over various physical media
- Introduce concepts of network protocols and identify key issues
- Explain the seven-layer OSI communication protocol model
- Explain the architecture and protocols comprising the Internet
- Implement network services that communicate through the Internet
- Identify and explore network programming abstractions in use today

Topics

- **Introduction to computer network architectures**
- **OSI Protocol Model**
- **Internet Protocols**
- **Network Programming Abstractions**
- **Client/Server Programming**
- **Network Security**

Prerequisites

- **CS3204 (Operating Systems)**
- **Strong programming ability in C**
- **User-level understanding of the UNIX operating system**
- **Ability to undertake substantial independent design projects**

Resources

- **Required text:**
 - Douglas E. Comer and David L. Stevens, *Internetworking with TCP/IP Volume III: Client-Server Programming and Applications*, Linux/POSIX sockets version, Prentice Hall, 2001
- **Recommended text:**
 - Douglas E. Comer, *Internetworking with TCP/IP Volume I: Principles, Protocols, and Architecture*, 3rd edition, Prentice Hall, 1995.
 - Andrew Tannenbaum, *Computer Networks*, Third Edition, Prentice Hall, 1996

Grading

Homework + Quizzes	10%
Projects (3)	45%
Midterm (1)	15%
Final Project	30%