

Network Programming

Instructor: Dr. Yanni Ellen Liu, Computer Science Room 1438, ellenyliu@cs.sunysb.edu

Office hours: Tuesday 2:30-3:30pm, Friday 11am-1pm, or by appointment

Classes: Tuesday/Thursday, 12:50am-2:10pm, Computer Science Room 2120

Bulletin description

Socket and client-server programming, remote procedure calls, data compression standards and techniques, real-time protocols (e.g.: audio chat, etc.), security and cryptography, specifically, application layer security issues (e.g., authentication), web-related programming (CGI, Java/JavaScript, HTTP, etc.), network management (SNMP-based management, dynamic/CORBA-based management). 3 credits.

Pre-requisite

CSE306 (Operating Systems), CSE310 (Computer Networks), or equivalents. Good programming skills.

Course coverage (tentative)

C/Unix, TCP, UDP, and raw sockets; RPC; shared memory. Assignments and programming projects will focus on network programming in the context of network protocol development and implementation (e.g., SNMP, ICMP, routing, multicasting, ARP, etc.), and distributed services and system-level applications (e.g., client-server and peer-to-peer applications, distributed file systems, name services, etc.)

Textbook

W. Richard Stevens, Bill Fenner, and Andrew M. Ruddof. “*Unix Network Programming, Volume 1: The Sockets Networking API*”, 3rd. edition, Addison-Wesley, 2004

Evaluation

65%	Assignments and programming projects
35%	Final exam

Course Web pages

- <http://www.cs.sunysb.edu/~cse533/> for course schedule and some documents/samples, and
- **Blackboard** course site for most other course materials such as slides, assignment specification, assigned readings, references, exam syllabus, and most importantly the announcements. It also contains the discussion board and your grades. The site **must** be monitored and read regularly.

Discussion board

Communications related to the course, especially to the assignments and programming projects will be through Blackboard discussion board. Different forums will be created for different assignments, and anybody can create threads, post questions, answers, and comments. *You are expected to monitor and read these posts regularly.*

Important notes

This is a very heavy course. There is a lot of material to be studied and knowledge to be learned, both within and outside classes. Only take this course if you are prepared to commit the required time and effort. C/C++ programming and the UNIX environment will be used.

Americans with Disabilities Act: If you have a physical, psychological, medical or learning disability that may impact your course work, please contact Disability Support Services, ECC (Educational Communications Center) Building, room128, (631) 632-6748. They will determine with you what accommodations, if any, are necessary and appropriate. All information and documentation is confidential.

Academic Integrity: **All submitted work must be your or your group's own. For example, the code you submit must be your own and cannot be shared with anyone.** Each student must pursue his or her academic goals honestly and be personally accountable for all submitted work. Representing another person's work as your own is always wrong. Faculty are required to report any suspected instances of academic dishonesty to the Academic Judiciary. Faculty in the Health Sciences Center (School of Health Technology & Management, Nursing, Social Welfare, Dental Medicine) and School of Medicine are required to follow their school-specific procedures. For more comprehensive information on academic integrity, including categories of academic dishonesty, please refer to the academic judiciary website at <http://www.stonybrook.edu/uaa/academicjudiciary/>

Critical Incident Management: Stony Brook University expects students to respect the rights, privileges, and property of other people. Faculty are required to report to the Office of Judicial Affairs any disruptive behavior that interrupts their ability to teach, compromises the safety of the learning environment, or inhibits students' ability to learn. Faculty in the HSC Schools and the School of Medicine are required to follow their school-specific procedures.