CSE 533 (Fall 2015)  Department of Computer Science  Stony Brook University

**Network Programming**

**Instructor:** Dr. Yanni Ellen Liu, New Computer Science, Room 107, ellenyliu@cs.stonybrook.edu

**Office hours:** Monday 4-5pm, Tuesday/Thursday 1:45-3pm, or by appointment

**Classes:** Monday/Wednesday, 2:30-3:50pm, Javits 111

**Bulletin description**
Topics include Unix and Linux socket API programming at the TCP, UDP, IP (raw sockets) and datalink access (Linux PF_PACKET sockets, libpcap & libnet libraries) levels, in the context of developing and implementing client-server applications, reliable data transfer using TCP-like rdt and flow control mechanisms, routing protocols, address resolution protocols, multicasting, DNS protocols. 3 credits.

**Pre-requisite**
CSE 230 (Intermediate Programming in C & C++), CSE306 (Operating Systems), CSE310 (Computer Networks), or equivalents.

**Course coverage (tentative)**
C/Unix TCP & UDP socket programming; routing & 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., TCP, 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.)

**Required Textbook**

**Evaluation (subject to minor change)**
65% Assignments and programming projects
35% Final exam. It will be held on Tuesday, Dec 8, 5:30-8pm. Place is TBA

**Course Web pages**
- [http://www.cs.stonybrook.edu/~cse533/](http://www.cs.stonybrook.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. Anybody can create threads, post questions, answers, and comments. You are required to subscribe to the Blackboard discussion board to stay up-to-date.
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 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, room 128, (631) 632-6748. They will determine with you what accommodations, if any, are necessary and appropriate. All information and documentation is confidential. [http://studentaffairs.stonybrook.edu/dss/index.shtml](http://studentaffairs.stonybrook.edu/dss/index.shtml)

Students who require assistance during emergency evacuation are encouraged to discuss their needs with their professors and Disability Support Services. For procedures and information go to the following website: [http://www.stonybrook.edu/ehs/fire/disabilities](http://www.stonybrook.edu/ehs/fire/disabilities)

Academic Integrity: All submitted individual work must be your own. All submitted group work must be your group’s own. The code you (or your group) submit cannot be shared with any others. 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/commcms/academic_integrity/index.html](http://www.stonybrook.edu/commcms/academic_integrity/index.html)

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.