CS 42200 Home Page for Spring 2014

Course Personnel

	Instructor	Graduate Teaching Assistant
Name	Prof. Douglas Comer	Sunghwan Yoo, Rajas H Karandikar

Time/Location

Time: MWF, 11:30 am –12:20 pm
Location: Wetherill Lab of Chemistry 320

Purpose

This is an extensive and thorough senior-level course in computer networking and internetworking; it covers all aspects of data networking. The course material has been divided into six modules:

1. Network programming and applications: client/server concept; port demultiplexing; socket API; server concurrency; DNS; TELNET; web protocols and technologies.
2. Data communications: low-level details of media, signals, and transmission of bits; concepts of time division and frequency division multiplexing; encoding; modulation; bandwidth, throughput, and noise.
3. Computer networks: packet transmission; access and interconnection technologies; LAN topologies; addressing; Local and Wide Area networks; wired and wireless technologies, including Ethernet, Wi-Fi, and 4G; repeaters, bridges, and switches.
4. Internetworking: Internet architecture; IPv4 and IPv6; IP addressing; address binding; datagram encapsulation and fragmentation; datagram forwarding; support protocols; transport protocols UDP and TCP; retransmission; protocol ports; ICMP and error handling. Routing algorithms and Internet routing protocols.
5. Cross-layer technologies: network performance and performance measures; QoS; multimedia and IP telephony (VoIP); network security; traffic engineering and MPLS; network management with SNMP.
6. Emerging topics: Software Defined Networking; SDN architecture and controllers; OpenFlow; The Internet of Things; wireless mesh networks; ZigBee IP as an example of mesh forwarding; mesh routing; the need for modified protocols.

Textbook

Comer, Computer Networks And Internets, sixth edition, Prentice-Hall, 2014.

Grading Policy

Students will solve homework problems, and take in-class exams and quizzes. In addition, each student will be given a lab exercise once per week. Labs (PSOs) will provide hands-on experience with networking equipment, and give students an opportunity to write applications that communicate over the Internet as well as analyze packets. A grade will be assigned as follows:

- 5% Quizzes
- 10% Homework problems
- 45% Programming exercises
- 40% Examinations (midterm and final)

Switching PSO Sections

Because equipment in the lab is limited, you may not switch PSO sections unless you find some one in another section who is willing to swap with you.

Late Policy

Each student has three late days that can be applied at any time during the semester. Otherwise, there is no partial credit for late assignments, and this applies specifically to lab assignments, many of which must be completed during lab. The only exceptions will be for emergencies.

Class Web Page And Email Lists

- Web page: http://courses.cs.purdue.edu/cs42200:spring14:start
- TAs: cs422-ta@cs.purdue.edu

Changes For Emergencies

In the event of a major campus emergency, course requirements, deadlines and grading percentages are subject to change that may be necessitated by a revised semester calendar or other circumstances. If an emergency occurs, you can consult the CS web page for details.