Syllabus of CS4220: Computer Networks
Spring 2020, Credit Hrs: 3, CS Dept/College of EAS

Time & Loc.: MW 3:05pm --4:20pm, ENG 107
Faculty:
Prof. Xiaobo (Charles) Zhou
Office: 178 Engineering Building, 255-3493 (office), Email: xzhou@uccs.edu
Office Hours: Monday 1:30 pm--2:30pm, 178 EAS
Course website: http://www.cs.uccs.edu/~xzhou/teaching/CS4220/
Teaching Assistant: Sean Higgins, Email: shiggins@uccs.edu
Office Hours: Wednesday 2:00 pm--3:00pm, ENG 240 Thomas Saponas Student Lounge

Course Description:

Computer networking is one of the most exciting and important technological fields of our time. The Internet and its applications and services, such as WWW, streaming, mobile networks, P2P, etc., are changing the ways we live and work. The networking/Internet field and all that it enables is a vast new frontier, full of amazing challenges. There is always room for your innovations.

CS4220 covers fundamental computer networking concepts and principles with exercises which guide you to apply the networking theory and design principles, verify their understandings, and build a solid foundation for creating innovations in today's Internet. The course serves you two ways. For those undergraduate students who will continue in computer networking, it lays foundations of network architectures, protocol design principles, and TCP/IP programming, which are necessary to take more advanced courses in graduate study and/or technical training in the industry. For those not continuing in computer networking, it covers basic networking knowledge, network configuration and programming experience, and in-depth understanding of the inner-workings of computer networks and their evolution.

Course Format

The material presented in the course will be complemented by the following textbook.

Required: Andrew S. Tanenbaum and David J. Wetherall, "Computer Networks", 5th Edition, Prentice Hall, 2011. ISBN-13: 978-0-13-212695-3. The course may be supplemented by additional reading materials and guest lectures.

Tentative Schedules

- Introduction to Computer Networks
- The Physical Layer
- The Data Link Layer and Peer-to-Peer Protocols
- The MAC Sublayer and LANs
- The Network Layer and Routing
- TCP/IP Socket programming
- The Transport Layer
- The Application Layer

Prerequisites

- CS2060 or equivalent (C and Unix/Linux environments), and Math 2150 (Discrete Math)
- If you want to take the class without the prerequisite, you need to get the approval from the instructor and make up for the prerequisite.

Grading

The final grade will be composed of

- In-class discussion & attendance   4%
- Homework Assignments   20%
- Projects   16%
- Midterm (in class, closed book and notes)   24%
- Final (in class, closed book and notes, comprehensive)   36%
    * All midterm and final exams will be graded by Prof. Zhou himself.

The Overall grades will be assigned as follows:

- 90 ≤ {A};   87 ≤ {A-} < 90
- 84 ≤ {B+} < 87;   80 ≤ {B} < 84;   77 ≤ {B-} < 80
- 74 ≤ {C+} < 77;   70 ≤ {C} < 74;
- 65 ≤ {D+} < 70;   60 ≤ {D} < 65;   E/F: below 60

Requirements

- EAS Linux Servers up to use: blanca, crestone, shavano, and windom.
- Students are required to attend all lectures. There will be attendance tracking.
- The last day to drop in myUCCS portal: April 3, 2020.
- Homework and project assignments are important components of the course and should be completed individually. There will be about five homework assignments and two small projects. Homework assignments must be due in class on the due date in hard-copy. Demos and reports in hard-copy for projects are required. See course Web site for more details about the projects.
- Late homework and project submissions lose 30% of their values per day, except under extreme non-academic circumstances, such as illness. In such cases, you should provide proofing documents from the doctor.
- FOR FAIRNESS, NO MAKE-UP EXAMS, exceptions are the same as those of late homework.
- There will be one midterm exam and one final exam, which are close-book and close-notes. However, you can carry one double-side hand-writing sheet of 8.5 by 11in.
- **The midterm exam will (tentatively) take place 3:05pm-4:20pm, March 11 (Wed), 2020.**
- **The final exam will take place 12:40 PM-2:40 PM, May 13 (Wed), 2020.**
- All exams will take place in the classroom.

Others

If you have a disability for which you are requesting an accommodation, you are encouraged to contact the Disability Services Office, located in Main Hall #105 (Phone # 255-3354), within the first week of classes.

- Cheating, unfortunately, it is necessary to mention it here. Cooperation is not the same as cheating. It's OK to ask someone about the concepts before you start to do homework or project assignments; however, copying other people's code or solution sets is strictly prohibited. Please have an envelope/folder for your homework turn-ins. Adherence to the University's **Code of Ethics** will be strictly monitored and enforced. This will be applicable to assignments, projects and examinations.