

# Syllabus of CS422: Computer Networks

Summer 2009, Credit Hrs: 3, CS Dept/College of EAS

**Time & Loc.:** MW 4:30pm --7:05pm, ENG 105

**Instructor:**

Prof. Xiaobo (Joe) Zhou

Office: 176 Engineering Building, 255-3493 (office), Email: zbo@cs.uccs.edu

Office Hours: MW 3:00 pm--4:30pm, 176 EAS, and/or by appointment (email preferred)

Course website: [http://www.cs.uccs.edu/~zbo/teaching/CS422/CS422\\_Spring09.html](http://www.cs.uccs.edu/~zbo/teaching/CS422/CS422_Spring09.html)

**Grader:** if available, will be released.

**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 Web, email, Voice over IP, video-on-demand, mobile networks, 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 innovation.

CS422 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 skills, 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, "Computer Networks", 4th Edition, Prentice Hall, 2003. The text may be complemented by some additional reading assignments.

**Tentative Schedules**

- Introduction to Computer Networks (2 lectures)
- The Physical Layer (2 lecture)
- The Data Link Layer (5 lectures)
- The MAC Sublayer (5 lectures)
- The Network Layer (6 lectures)
- TCP/IP socket programming (1-2 lectures)
- Network Management (1-2 lectures)
- The Transport Layer (4-5 lectures)
- The Application Layer (1-2 lectures)

**Prerequisites**

- CS206 or equivalent (C/C++ and Unix/Linux environments), and Math 215 (Discrete Math)
- If you want to take the class without the prerequisite, you have to get permission from the instructor. If approved, it is your responsibility to make up for the prerequisite..

## Grading

The final grade will be composed of

- In-class discussion & attendance 4%
- Homework & Reading Assignments 20%
- Projects 20%
- Midterm (in class, closed book and notes) 20%
- Final (in class, closed book and notes, comprehensive) 36%

All exams will be graded by the instructor himself. Grades will be assigned as follows:

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

## Requirements

- Students are required to attend all lectures.
- The last day to drop without special permission from your dean: July 17 2009.
- Homework/reading/project assignments are important part of the course and are to be completed individually. There will be about 5 homework assignments, one reading assignment, and two team projects. Homework and reading assignments must be done individually, and be due in class on the due date in hard-copy. Some project(s) should be done in teams; your teammates will possibly be designated by the instructor (based on random selection) before projects are released. Some project(s) might be done individually, but should be approved by the instructor in advance. Demos and reports in hard-copy for projects are required. See course Web site for more details about the projects.
- Late homework/reading/project submissions lose 30% of their values per day, except under extreme non-academic circumstances, such as illness. In such cases, you have to inform the instructor by email/phone right away and provide sufficient and convincing proof later, i.e., documents from the doctors.
- 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 11 in. The midterm exam will (tentatively) be in class, 4:30pm-7:00pm, Monday, July 13, 2009. The final will be 4:30 PM-7:00 PM, Wednesday, August 5, 2009, ENG 105. All exams have no make-up.

## 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. Any work submitted for a grade must include the following statement and be signed and dated. If this is missing or not signed and dated, the work will be returned ungraded. Please prepare a big envelope for your homework.

**We need the strict rules, because everyone wants to be, and will be, treated fairly in this class!**

*I have neither given nor received unauthorized assistance on this work.*  
Signed: \_\_\_\_\_ Date: \_\_\_\_\_