Syllabus of ITCS3166: Computer Networks

Fall 2017, CS Dept / College of CCI

Time & Loc.: F 2:00pm --4:45pm, Woodward Hall 130

Instructor:

Prof. Dazhao Cheng   Office: Woodward Hall 435G, (704) 687-8381 (office), Email: dazhao.cheng@uncc.edu

Office Hours: T 2:30 pm-4:30pm, Woodward Hall 435G, and/or by appointment (email preferred)

Teaching Assistant: TBA

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 innovations.

ITCS3166 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, 2008. ISBN-13: 978-0-13-212695-3. The text may be complemented by additional reading assignments.

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 TCP/UDP Layer
- The Application Layer

Prerequisites

Programming and Unix/Linux environments (or equivalent). 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 3%
- Homework 20%
- Projects & Reading Assignments 20%
- Midterm (in class, open book and notes) 20%
- Final (in class, open book and notes, comprehensive) 37%

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:below60

Requirements

1. Students are required to attend all lectures.

2. The University policy on Course Withdrawal allows students a limited number of opportunities available to withdraw from courses. There are financial and academic consequences that may result from course withdrawal.

3. Homework/reading/project assignments are important part of the course and are to be completed

individually. There will be about four homework assignments, one reading assignment, and one small team project. Homework must be done individually, and be due in class on the due date. The reading assignment and the project should be done in two-person teams; your teammates will possibly be designated by the instructor (based on random selection) before projects are released. If a teammate is not available, a project might be done individually, but should be approved by the instructor in advance. Demos and reports for the project are required.

4. 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.

5. FOR FAIRNESS, NO MAKE-UP EXAMS, exceptions are the same as those of late homework.

6. There will be one midterm exam and one final exam, which are open-book and open-notes. The midterm exam will (tentatively) be in class, Oct. 6, 2017. The final will be on Dec. 8-15, 2017. All exams are in classroom, 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. 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 un-graded.

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:*