14-740: Fundamentals of Computer Networks
Fall 2017

Course Syllabus

Overview:
14-740 is a graduate-level, first-course in computer networks. The primary objective of this course is for you to learn the fundamental principles underlying computer networks. Using a top-down approach, we will cover topics in the application, transport, network and link layers of the protocol stack. We will also go over advanced topics, including network management, traffic engineering, and router internals. Besides learning about the nuts and bolts, you will gain an understanding of the engineering tradeoffs and design principles used in computer networks.

Instructor:
Bill Nace

TAs:
Jaideep Joshi   Goldy Lim
Surbhi Shah

Time and Location:
CIC 1201 (Distributed Education Classroom)
Tuesday and Thursdays; 7:30 - 8:50 pm

Textbook:
Computer Networking: A Top-Down Approach, 7th Edition, by James Kurose and Keith Ross, Addison Wesley.
Yes, this book is REQUIRED
We will use the latest edition!
A copy is on reserve in the Sorrell's Library for short-term use

Other Reading:
A collection of research papers from conferences and journals and also engineering papers such as documents from IETF. These papers are available on the website. You will read the assigned readings critically before each class.

Course Website:
All course materials (this syllabus, lecture slides, reading materials, instructions for assignments, etc) will be made available on the course website at www.ini740.com. The Canvas system at www.cmu.edu/canvas will be used for assignment submission and grades.

Q&A Website:
This course will use Piazza for student questions and answers. The class page is piazza.com/cmu/fall2017/14740/home. Top participants on Piazza (either as askers or answers) are eligible for Class Participation grade points.

Staff email dlist: You can send email to ini740-staff@ece.cmu.edu and your email will be distributed to the professor and all the TAs. While we prefer (and prioritize) use of Piazza, this method is useful for questions pertaining to your personal situation.

Grade assignment: The course grade will be calculated from a weighted average of the individual event scores. The events and weights are as follows:

Weight	Event
40%	2 homework assignments and 4 labs. The assignments are pen-and-paper analysis or projects involving network tools. The labs use the Wireshark protocol analyzer
10%	Paper reviews. For each paper you read, you will write a review containing a short summary of the paper, 3 important points, and 2 questions/comments you have for the paper. This is to help you read the papers critically before class and come prepared for discussions.
20%	2 non-comprehensive quizzes. Each quiz will be 45 minutes during a regular class period. Quizzes will draw on material from lectures, from the assigned readings (textbook and supplemental papers) as well as from homework and lab assignments.
25%	Comprehensive final exam. The exam will be held during the last class period plus one-hour (i.e. 7:30pm - 9:50pm on 7 Dec 2017)
5%	Class participation, based on the questions and comments you contribute in class. Just showing up for class and not saying anything is not considered to be participation. Be ready by reading the assigned papers; thinking about the papers critically will help you.

Late Policy: All assignments must be submitted by the deadline. No late work will be accepted. If you have a life-changing event, talk to the professor (ahead of time if at all possible) for a potential extension.

Be very careful! Make sure you are certain that you are submitting the correct version of your work, for instance, as we won't accept something else after the deadline.

Extra Credit: Only graded events offered to all students in the course will be considered for the final grade. No individual will be offered "extra-credit" or a "make-up project" to improve their grade, as that would not be fair to other students. If you wish to have a better grade, don't wait until after the final to ask -- the only way to get a better grade is to do better work (and thus learn more) throughout the semester.

Grading Appeals: If you believe there has been a mistake in the grading of any assignment or exam, then please bring it to our notice so we might correct it. Grade appeals must be submitted **in writing** within 1 week to the instructor or to the ECE course hub**.**

Academic Integrity: *14-740 will adhere to the strictest standard of academic honesty.* All work presented for a grade must be your own -- you are never permitted to copy someone else's work to present as your own. You must also identify the conceptual sources for all work submitted (i.e. if you discuss the work with anyone other than an instructor or TA, you must identify that person by name in your submission). All parties involved in an infraction are subject to disciplinary actions to the fullest extent permitted, generally failure of the course, and may be submitted to further University procedures up to and including expulsion. Please review fully and carefully the Student Handbook for Carnegie Mellon University's official policy regarding Cheating and Plagiarism (http://www.cmu.edu/policies/documents/Cheating.html). I will also punish any infraction that I believe occurred (Standard of evidence is "Preponderance of the Evidence"). Such punishment will generally be assignment of a zero grade for the event, as well as retroactive examination of previous work for signs of cheating.

Academic Integrity notes from an instructor who has taught this course many times:

In 14-740, the majority of academic integrity violations are due to over collaboration. Take a look at the policy: "All work presented for a grade must be your own." It does not go on to say "except for if you happened to work in a group and just copied down the answer that the group generated." If I find homework submissions that look identical (or even just "too similar"), I will suspect that copying took place.

Working and learning in a group is a fine thing to do for 14-740. Teaching others in a group is often the easiest way to make sure you learn the material yourself. However, ensure that each person in your group is doing their own work and not simply copying down a group-generated answer. Please, please, do the right thing.

Take care of yourself: Do your best to maintain a healthy lifestyle this semester by eating well, exercising, avoiding drugs and alcohol, getting enough sleep and taking some time to relax. Doing so will help you achieve your goals and cope with stress.

All of us benefit from support during times of struggle. You are not alone. There are many helpful resources available on campus and an important part of the college experience is learning how to ask for help. Asking for support sooner rather than later is often helpful.

If you or anyone you know experiences any academic stress, difficult life events, or feelings like anxiety or depression, I strongly encourage you to seek support. Counseling and Psychological Services (CaPS) is here to help: call 412-268-2922 and visit their website (cmu.edu/counseling/). Consider reaching out to a friend, faculty (ME!) or family member you trust for help getting connected to the support that can help.