EE381K- Communication Networks

Option III Course Syllabus

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Spring 2025
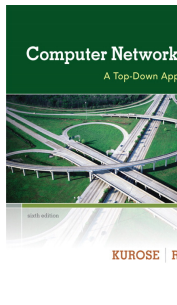
General Information

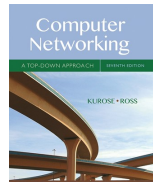|	
Classroom	ECJ 1.312.
Contact	ramesh@mail.utexas.edu
Pre-requisites	EE312 or equivalent
Dates/Time	1/24-25, 2/7-8, 3/7-8, 4/4-5, 5/2-3 Fri-Sat 1:00pm-5:00pm
Website	UT Canvas
TAs	Bharath Raj Venkatakrishnan (bharv6788@utexas.edu)

Course Overview

This is an introductory course in Computer Networking. It covers all basic components of modern networks, including: link level technologies such as Ethernet, token rings, and wireless Ethernet; switching technologies such as bridges and ATM; internetworking including IP; the transport layer, including TCP and UDP; and congestion control. Time permitting; we will also consider security, quality of service, high-performance networks, and/or multimedia. Although IP and TCP are primary examples used in the course, it is NOT a course on TCP/IP

Text

Computer Networking: A Top-Down Approach, 7th or 8th edition
J.F. Kurose, K.W. Ross
ISBN-10: 0132856204 • ISBN-13: 9780132856201

Grading Criteria

Assignment	Percentage
Projects (4)	80%
Quizzes (5)	15%
Wireshark (5)	5%

This is a project-based class where most of the work you are evaluated for, are projects. There will be 4 large projects each worth 20%. Each project will have a Wireshark (wireshark.org) component and a programming component. The Wireshark component gives you a practitioner's perspective of the project at hand and the programming component asks you to implement a networking aspect covered in class.

Quizzes

There will be bi-weekly quizzes on Canvas covering concepts covered in the most recent lecture session. They will be administered online through Canvas. You will be given a window of two-weeks within which you will have to take the quiz. The quiz itself will be timed to be 45-60 minutes with two attempts allowed and the average taken.

Late Policy

All programming projects have a strict deadline. However, you can turn in any programming assignment by the deadline for the last programming assignment to earn a maximum of 75%. So, say you did not turn in Project1 at the scheduled deadline. You may turn it in any time before the deadline for the last Project and earn a maximum of 75 points on it. The TA will not be obliged to grade a late submission before the last project. Please note that some projects depend on previous projects and so deferring your submission may not always be feasible.

Honor Code

Programming assignments, examinations must be the product of work performed exclusively by you. You may discuss on Piazza but your submission must be your own work. Allegations of Scholastic Dishonesty will be dealt with according to the procedures outlined in Appendix C, Chapter 11, of the General Information Bulletin,
http://www.utexas.edu/student/registrar/catalogs/

Tentative Lecture Schedule

Date	Topics
Jan 24-25 (Fri-Sat)	Chapter 1 and 2: The Internet, Performance, Application-Layer Protocols, Socket Programming
Feb 7-8 (Fri-Sat)	Chapter 3: Transport-Layer Protocols (Connection-oriented communication using Virtual-Circuits - TCP, Connection-less communication using Datagrams -UDP)
Mar 7-8 (Fri-Sat)	Chapter 4: Internetworking (IPv4, IPv6) Routing (RIP, IGMP), Control (ICMP, DHCP, NAT)
Apr 4-5 (Fri-Sat)	Chapter 5: Data Link-Layer Protocols, CRC, LAN Addressing (ARP), Multiple Access protocols (Wired-Ethernet, wireless-WiFi, Bluetooth,4G), Virtual LANs
May 2-3 (Fri-Sat)	Chapter 6: Wireless Networks and Mobility. 802.11* (WiFi), Bluetooth, Cellular Networks. Handoffs in GSM, Mobile IP

Disclaimer

Instructor reserves the right to modify course policies, the course schedule, and point values and due dates.

Additional Details

The University of Texas at Austin provides, upon request, appropriate academic adjustments for qualified students with disabilities. For more information, contact the Office of the Dean of Stu-

dents at 471-6259, 471-4241 TDD, or the College of Engineering Director of Students with Disabilities, 471-4321.

Land Acknowledgment
I/we would like to acknowledge that we are meeting on Indigenous land. Moreover, I/we would like to acknowledge and pay our respects to the Carrizo & Comecrudo, Coahuiltecan, Caddo, Tonkawa, Comanche, Lipan Apache, Alabama-Coushatta, Kickapoo, Tigua Pueblo, and all the American Indian and Indigenous Peoples and communities who have been or have become a part of these lands and territories in Texas, here on Turtle Island.

Sharing of Course Materials is Prohibited
No materials used in this class, including, but not limited to, lecture hand-outs, videos, assessments (quizzes, exams, papers, projects, homework assignments), in-class materials, review sheets, and additional problem sets, may be shared online or with anyone outside of the class unless you have my explicit, written permission. Unauthorized sharing of materials promotes cheating. It is a violation of the University's Student Honor Code and an act of academic dishonesty. I am well aware of the sites used for sharing materials, and any materials found online that are associated with you, or any suspected unauthorized sharing of materials, will be reported to Student Conduct and Academic Integrity in the Office of the Dean of Students. These reports can result in sanctions, including failure in the course.

Class Recordings
Class recordings are reserved only for students in this class for educational purposes and are protected under FERPA. The recordings should not be shared outside the class in any form. Violation of this restriction by a student could lead to Student Misconduct proceedings.

COVID Caveats
To help keep everyone at UT and in our community safe, it is critical that students report COVID-19 symptoms and testing, regardless of test results, to University Health Services, and faculty and staff report to the HealthPoint Occupational Health Program (OHP) as soon as possible. Please see this link to understand what needs to be reported. In addition, to help understand what to do if a fellow student in the class (or the instructor or TA) tests positive for COVID, see this University Health Services link.