TLEN5330: Data Communications

Course Description

This course discusses the basic concepts, design principles, and underlying technologies of computer networks.

Time and Location

TTH 12:30PM - 1:45PM; ECCS 1B14

Instructor

Lijun Chen (lijun.chen@colorado.edu)
Office hours: Tue 2:30PM - 4:30PM; or by appointment
Office: ECOT 335; ext. 4384

Teaching Assistant

Abhiram Yarlagadda (abhiram.yarlagadda@colorado.edu)
Aravind Mohankumar (aravind.mohankumar@colorado.edu)
Office hours: TBA
Office: TBA

Required Text


Reference Texts


Lectures

This is a tentative outline of the topics we will cover and will likely change as the semester goes by.

- Overview and foundation (Jan 15 & 17)
  Lecture Notes
  Lecture Notes
  Reading: Chapter 1.
• Link layer (Jan 22, 24, 29 & Feb 5)
  Lecture Notes
  Lecture Notes
  Lecture Notes (Guest lecture by Dr. Ken Baker)
  Lecture Notes
  Reading: Chapter 2.

• Lab 1 (Jan 31)
  Lecture Notes
  Introduction to OPNET
  CSMA

• Network layer (Feb 7, 12, 14, 19, 21 & March 12)
  Lecture Notes
  Lecture Notes
  Lecture Notes
  Lecture Notes
  Lecture Notes
  Lecture Notes
  Lecture Notes
  Reading: Chapter 3 & 4.

• Quiz 1 (Feb 28)
  Review (Feb 26)
  Solutions review (March 5)

• Lab 2 (Mar 8)
  Hubs, Switches, and Routers (In-class students)
  Switched LANs (Distant students)

• Transport layer (Mar 7, 12, 14, 19 & Apr 2)
  Lecture Notes (Guest lecture by Dr. Sangtae Ha)
  Lecture Notes
  Lecture Notes
  Lecture Notes
  Lecture Notes
  Lecture Notes
  Reading: Chapter 5 & 6.

• Quiz 2 (Mar 21)
  Solutions Review (April 4)

• Lab 3
  OSPF

• Multimedia (Apr 9 & 11)
  Lecture Notes
  Reading: Chapter 7.2.
• Network security (Apr 11, 16 & 18)
  Lecture Notes
  Lecture Notes
  Lecture Notes
  Reading: Chapter 8.

• Quiz 3 (Apr 23)
  Solutions Review (April 25)

• Review (Apr 30 & May 2)
  Lecture Notes

• Final (1:30-4:00pm on May 7)

**Grading**

This is a preliminary breakdown that may change during the semester.

- Homework -- 15%
- Lab -- 10%
- Quiz -- 40%
- Final -- 30%
- Participation -- 5%

**Homework and Lab**

There will be about 6 homework sets and 3 lab assignments. Students are strongly encouraged to collaborate on homeworks, but should make sure to fully understand the problems and solutions and must write down solutions independently.

**Late policy:** No late homework will be accepted.

**Quiz and Final**

There will be 3 quizzes, approximately one each month, and a final exam.

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**Accommodations for Disability**

If you qualify for accommodations because of a disability, please submit to your professor a letter from Disability Services in a timely manner (for exam accommodations provide your letter at least one week prior to the exam) so that your needs can be addressed. Disability Services determines accommodations based on documented disabilities. Contact Disability Services at 303-492-8671 or by e-mail at dsinfo@colorado.edu.
If you have a temporary medical condition or injury, see Temporary Medical Conditions: Injuries, Surgeries, and Illnesses guidelines under Quick Links at Disability Services website and discuss your needs with your professor.

**Religious Observances**

Campus policy regarding religious observances requires that faculty make every effort to deal reasonably and fairly with all students who, because of religious obligations, have conflicts with scheduled exams, assignments or required attendance. In this class, we accommodate the absences of the class and delay in homeworks and project due to religious observances, upon notifying the instructor one week ahead. See full details at http://www.colorado.edu/policies/fac_relig.html.

**Classroom Behavior**

Students and faculty each have responsibility for maintaining an appropriate learning environment. Those who fail to adhere to such behavioral standards may be subject to discipline. Professional courtesy and sensitivity are especially important with respect to individuals and topics dealing with differences of race, color, culture, religion, creed, politics, veteran's status, sexual orientation, gender, gender identity and gender expression, age, disability, and nationalities. Class rosters are provided to the instructor with the student's legal name. I will gladly honor your request to address you by an alternate name or gender pronoun. Please advise me of this preference early in the semester so that I may make appropriate changes to my records. See policies at http://www.colorado.edu/policies/classbehavior.html and at http://www.colorado.edu/studentaffairs/judicialaffairs/code.html#student_code.

The instructor reserves the right to adjust grades as he sees needed, in response to the student behavior issues.

**Discrimination and Harassment**

The University of Colorado Boulder (CU-Boulder) is committed to maintaining a positive learning, working, and living environment. The University of Colorado does not discriminate on the basis of race, color, national origin, sex, age, disability, creed, religion, sexual orientation, or veteran status in admission and access to, and treatment and employment in, its educational programs and activities. (Regent Law, Article 10, amended 11/8/2001). CU-Boulder will not tolerate acts of discrimination or harassment based upon Protected Classes or related retaliation against or by any employee or student. For purposes of this CU-Boulder policy, "Protected Classes" refers to race, color, national origin, sex, pregnancy, age, disability, creed, religion, sexual orientation, gender identity, gender expression, or veteran status. Individuals who believe they have been discriminated against should contact the Office of Discrimination and Harassment (ODH) at 303-492-2127 or the Office of Student Conduct (OSC) at 303-492-5550. Information about the ODH, the above referenced policies, and the campus resources available to assist individuals regarding discrimination or harassment can be obtained at http://www.colorado.edu/odh.
Honor Code

All students of the University of Colorado at Boulder are responsible for knowing and adhering to the academic integrity policy of this institution. Violations of this policy may include: cheating, plagiarism, aid of academic dishonesty, fabrication, lying, bribery, and threatening behavior. All incidents of academic misconduct shall be reported to the Honor Code Council (honor@colorado.edu; 303-735-2273). Students who are found to be in violation of the academic integrity policy will be subject to both academic sanctions from the faculty member and non-academic sanctions (including but not limited to university probation, suspension, or expulsion). Other information on the Honor Code can be found at http://www.colorado.edu/policies/honor.html and at http://www.colorado.edu/academics/honorcode/.