

**CS4392/5376: Computer Networks & Communication Networks
Summer II 2021**

- Instructor: Sunho Lim (Ph.D., Assistant Professor)
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- Course meetings: M/T/W/R/F, 12:00 PM – 1:50 PM (Online)
- Tentative office hours: M/W, 2:00 PM – 3:00 PM or by appointment (Online)
- Course web page: TTU Blackboard

Course Description:

- This course will cover basic principles of computer networks and communication protocols. Topics include designing, implementing, and managing of different types of network and networking technique embedded in the level of data/link, network, transport, and application layers. **Prerequisite:** Good background in computer science, good programming skill (e.g., C), or permission from the instructor.

Course Objectives:

- The primary objective of this course is to introduce students the fundamental principles of computer networks and its related communication algorithms and protocols in infrastructure-based networks.

Learning Outcomes: Upon completion of this course, the students will be able to,

- Undergraduate students:
 - Explain basic principles of computer networks.
 - Understand basic computer network algorithms and communication protocols.
 - Understand different types of network and networking techniques.
- Graduate students:
 - Explain, compare, and analyze basic principles of computer networks.
 - Understand and analyze basic computer network algorithms and communication protocols.
 - Identify and analyze different types of network and networking techniques.

Textbook:

- Computer Networking – A Top-Down Approach Featuring the Internet, 7th Edition, J. F. Kurose and K. W. Ross, Pearson

References:

- Important concepts/materials will be included in the lecture notes from various sources.

Course Schedule: Topics and/or dates may be changed during the semester at the instructor's discretion because of scheduling issues, developments in the discipline, or other contingencies.

- Week 1: Introduction; Application Layer (HTTP, DNS)
- Week 2: Transport Layer (Reliable Data Transfer, TCP)
- Week 3: Midterm Exam; Transport Layer (TCP)
- Week 4: Network Layer (IP, Routing); Link Layer (MAC)
- Week 5: Link Layer (LAN); Final Exam

Methods of Assessment:

- Midterm exam: 20%, **July 20th (Tuesday), 12:00 PM – 1:50 PM**, Online
- Final exam: 30%, **August 5th (Thursday), 8:00 AM – 10:30 AM**, Online
 - Open book and notes. There will be no make-up exam.
- Quiz/Review: 25%
 - Attendance (synchronous online) is highly required. If a student misses a class, the student should not expect individualized instruction what was missed. This will be effective from the beginning of semester.
 - Quiz/Review may not be announced in advance, and there will be no make-up quiz/review.
- Homework: 25%
 - Homework should be turned-in before due date. No late homework will be accepted. There is no partial credit for the late homework.

- Grade:
 - A (90 – 100), B (80 - 89), C (70 - 79), D (60 - 69), and F (0 - 59)

ADA Statement: Any student who, because of a disability, may require special arrangements in order to meet the course requirements should contact the instructor as soon as possible to make any necessary arrangements. Students should present appropriate verification from Student Disability Services during the instructor's office hours. Please note: instructors are not allowed to provide classroom accommodations to a student until appropriate verification from Student Disability Services has been provided. For additional information, please contact Student Disability Services in West Hall or call 806-742-2405.

Academic Integrity Statement: Academic integrity is taking responsibility for one's own class and/or course work, being individually accountable, and demonstrating intellectual honesty and ethical behavior. Academic integrity is a personal choice to abide by the standards of intellectual honesty and responsibility. Because education is a shared effort to achieve learning through the exchange of ideas, students, faculty, and staff have the collective responsibility to build mutual trust and respect. Ethical behavior and independent thought are essential for the highest level of academic achievement, which then must be measured. Academic achievement includes scholarship, teaching, and learning, all of which are shared endeavors. Grades are a device used to quantify the successful accumulation of knowledge through learning. Adhering to the standards of academic integrity ensures grades are earned honestly. Academic integrity is the foundation upon which students, faculty, and staff build their educational and professional careers. [Texas Tech University ("University") Quality Enhancement Plan, Academic Integrity Task Force, 2010]

Religious Holy Day Statement: "Religious holy day" means a holy day observed by a religion whose places of worship are exempt from property taxation under Texas Tax Code §11.20. A student who intends to observe a religious holy day should make that intention known in writing to the instructor prior to the absence. A student who is absent from classes for the observance of a religious holy day shall be allowed to take an examination or complete an assignment scheduled for that day within a reasonable time after the absence. A student who is excused under section 2 may not be penalized for the absence; however, the instructor may respond appropriately if the student fails to complete the assignment satisfactorily.

Discrimination, Harassment, and Sexual Violence Statement: Texas Tech University is committed to providing and strengthening an educational, working, and living environment where students, faculty, staff, and visitors are free from gender and/or sex discrimination of any kind. Sexual assault, discrimination, harassment, and other Title IX violations are not tolerated by the University. Report any incidents to the Office for Student Rights & Resolution, (806)-742-SAFE (7233) or file a report online at titleix.ttu.edu/students. Faculty and staff members at TTU are committed to connecting you to resources on campus. Some of these available resources are: TTU Student Counseling Center, 806-742-3674, <https://www.depts.ttu.edu/scc/> (Provides confidential support on campus.) TTU 24-hour Crisis Helpline, 806-742-5555, (Assists students who are experiencing a mental health or interpersonal violence crisis. If you call the helpline, you will speak with a mental health counselor.) Voice of Hope Lubbock Rape Crisis Center, 806-763-7273, voiceofhopelubbock.org (24-hour hotline that provides support for survivors of sexual violence.) The Risk, Intervention, Safety and Education (RISE) Office, 806-742-2110, <https://www.depts.ttu.edu/rise/> (Provides a range of resources and support options focused on prevention education and student wellness.) Texas Tech Police Department, 806-742-3931, <http://www.depts.ttu.edu/ttpd/> (To report criminal activity that occurs on or near Texas Tech campus.)

Civility in the Classroom Statement: Texas Tech University is a community of faculty, students, and staff that enjoys an expectation of cooperation, professionalism, and civility during the conduct of all forms of university business, including the conduct of student–student and student–faculty interactions in and out of the classroom. Further, the classroom is a setting in which an exchange of ideas and creative thinking should be encouraged and where intellectual growth and development are fostered. Students who disrupt this classroom mission by rude, sarcastic, threatening, abusive or obscene language and/or behavior will be subject to appropriate sanctions according to university policy. Likewise, faculty members are expected to maintain the highest standards of professionalism in all interactions with all constituents of the university.

To ensure that you are fully engaged in class discussions and account team meetings during class time, you are expected to do the following:

- Maintain the same level of civility and professionalism that would be expected in a face-to-face classroom setting.
- Attend all classes regularly.
- Log into the video conference on time and remain logged in for the duration of the class period.
- Activate your camera so that you are visible to the instructor and other students in the class. If you have concerns about leaving your camera on (such as childcare obligations, privacy issues, or a particular circumstance during a class period), please talk to the instructor.

- Refrain from engaging in non-class related activities during class time that create a distraction for other students in the class and/or limit your ability to engage in the course.

Failure to meet these expectations may result in the following consequences:

1. Being counted as absent for the class meeting.
2. Not receiving credit for class participation for that class period.
3. Other consequences as stipulated in the syllabus, Texas Tech Code of Student Conduct, or other university policy.

Repeated failure to meet expectations (e.g., attendance, participation in class, etc.), in addition to the above consequences, may result in the one or more of the following consequences:

1. Referral to the appropriate Associate Dean.
 2. Academic penalty, ranging from a warning to failure of the course.
- (www.depts.ttu.edu/ethics/matadorchallenge/ethicalprinciples.php).

LGBTQIA Support Statement*: I identify as an ally to the lesbian, gay, bisexual, transgender, queer, intersex, and asexual (LGBTQIA) community, and I am available to listen and support you in an affirming manner. I can assist in connecting you with resources on campus to address problems you may face pertaining to sexual orientation and/or gender identity that could interfere with your success at Texas Tech. Please note that additional resources are available through the Office of LGBTQIA within the Center for Campus Life, Student Union Building Room 201, www.lgbtqia.ttu.edu, 806.742.5433.

*If you prefer to list campus resources rather than a statement about ally status, you might include the following among other campus resources you wish to share:

Office of LGBTQIA, Student Union Building Room 201, www.lgbtqia.ttu.edu, 806.742.5433 within the Center for Campus Life, the Office serves the Texas Tech community through facilitation and leadership of programming and advocacy efforts. This work is aimed at strengthening the lesbian, gay, bisexual, transgender, queer, intersex, and asexual (LGBTQIA) community and sustaining an inclusive campus that welcomes people of all sexual orientations, gender identities, and gender expressions.

Ethical Conduct:

- Cheating will not be tolerated on any work done throughout the semester.
- First offence will result in an F for that assignment and Second offence will result in an F in the course. Both offenses must be reported to Student Judicial Programs.
- Cheating is considered to be any collaboration beyond basic discussion for anything unless specifically announced by the instructor. See Statement of Academic Conduct for Engineering Students, College of Engineering, for further information.
- “Students are expected to assist in maintaining a classroom environment that is conducive to learning. In order to assure that all students have the opportunity to gain from time spent in class, unless otherwise approved by the instructor, **students are prohibited from engaging in any form of distraction.** Inappropriate behavior in the classroom shall result, minimally, in a request to leave class.”
- **Laptop/electric-device/cell-phone are NOT allowed to use during the class.**

Potential for Course Modality Change: If Texas Tech University campus operations are required to change because of health concerns related to the COVID-19 pandemic, it is possible that this course will move to a fully online delivery format. Should that be necessary, students will likely need a webcam and microphone and will be advised of additional technical and/or equipment requirements, including remote proctoring software.

Illness Based Absence Policy: If at any time during this semester you feel ill, in the interest of your own health and safety as well as the health and safety of your instructors and classmates, you are encouraged not to attend face-to-face class meetings or events. Please review the steps outlined below that you should follow to ensure your absence for illness will be excused. These steps also apply to not participating in synchronous online class meetings if you feel too ill to do so and missing specified assignment due dates in asynchronous online classes because of illness.

1. If you are ill and think the symptoms might be COVID-19-related:
 - a) Call Student Health Services at 806.743.2848 or your health care provider.
 - b) Self-report as soon as possible using the ttucovid19.ttu.edu management system. This website has specific directions about how to upload documentation from a medical provider and what will happen if your illness renders you unable to participate in classes for more than one week.

- c) If your illness is determined to be COVID-19-related, remaining documentation and communication will be handled through the Office of the Dean of Students, including notification to your instructors.
- d) If your illness is determined not to be COVID-19-related, please follow steps 2.a-d below.

2. If you are ill and can attribute your symptoms to something other than COVID-19:

- a) If your illness renders you unable to attend face-to-face classes, participate in synchronous online classes, or miss specified assignment due dates in asynchronous online classes, you are encouraged to visit with either Student Health Services at 806.743.2848 or your health care provider. Note that Student Health Services and your own and other health care providers may arrange virtual visits.
- b) During the health provider visit, request a “return to school” note;
- c) E-mail the instructor a picture of that note;
- d) Return to class by the next class period after the date indicated on your note.

Following the steps outlined above helps to keep your instructors informed about your absences and ensures your absence or missing an assignment due date because of illness will be marked excused. You will still be responsible to complete within a week of returning to class any assignments, quizzes, or exams you miss because of illness.