**Instructor Contact**

**Name:**Amir Mirzaeinia

**Office Location:** Discovery Park E250F

**Office hours:** Thursday 1:00 - 5:00 pm or by appointment

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**Timing and Access   
Class Hours: Th 5:30PM - 8:20PM  
In-Person Class:NTDP E264**

**Assistants: Rohit Chilakala**

**Email:** [RohitChilakala@my.unt.edu](mailto:RohitChilakala@my.unt.edu)

**Office hours:**

Tuesday - 10:00 to 12:00 **Cubicle B**

Wednesday- 10:00 to 12:00 on Zoom

[https://zoom.us/j/92987663241?pwd=TzZJWld3TmVEdHNzS2JmVGVLQzdkdz09](https://nam04.safelinks.protection.outlook.com/?url=https%3A%2F%2Fzoom.us%2Fj%2F92987663241%3Fpwd%3DTzZJWld3TmVEdHNzS2JmVGVLQzdkdz09&data=05%7C02%7CAmir.Mirzaeinia%40unt.edu%7C879c0d1a75df4b50aa4c08dc191452ed%7C70de199207c6480fa318a1afcba03983%7C0%7C0%7C638412822271702190%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=a7FapxmP2dGG24%2B9bVAeOEhBasOPsACdTNMTupSMTmo%3D&reserved=0)

**References**

**Textbook:**

Computer Networking: A Top-Down Approach. by  James F. Kurose, Keith Ross

**Sample networks and topics that will be covered:**

Data center networks :

A long hallway with many rows of computer servers

Description automatically generated

 Cellular networks, 5G, 6G ..:

A diagram of a network

Description automatically generated

[A Survey on Beyond 5G Network With the Advent of 6G: Architecture and Emerging Technologies](https://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=9224777)

Propagation delay:

A black background with a black square

Description automatically generated with medium confidence

**Outcomes:**

**Network layers and functionalities:**

* Applications
* Transport
* Network
* Link
* Physical

**Different networks such as:**

* Local networks
* Wide area networks
* Wireless networks (Wifi, Cellular, PAN, ...)
* Fiber networks

**Extra activities:** Discussion oninteresting recent publications related to the course.

Time-division TCP for reconfigurable data center networks, Proceedings of the ACM SIGCOMM, August 2022. [YouTube link](https://www.youtube.com/watch?v=8eLBkI0okJc)

dcPIM: near-optimal proactive datacenter transport, Proceedings of the ACM SIGCOMM, August 2022, [YouTube link](https://www.youtube.com/watch?v=S4KCw28TLqM&list=PLU4C2_kotFP2rg92oGchLFN0Y7F3liFio&index=7)

Cyclops: An FSO-based wireless link for VR headsets, Proceedings of the ACM SIGCOMM, August 2022, [YouTube link](https://youtu.be/y03W8sxwh9Y?list=PLU4C2_kotFP2rg92oGchLFN0Y7F3liFio)

[other ACM SIGCOMM 2022 videos](https://www.youtube.com/playlist?list=PLU4C2_kotFP2rg92oGchLFN0Y7F3liFio)

<https://infocom2023.ieee-infocom.org/>

Data Center TCP (DCTCP)

<https://web.stanford.edu/~balaji/papers/10datacenter.pdf>

**Communication Expectations:**

You will be expected to regularly check university email and attend class regularly. When you miss a class, you are expected to check the course calendar shortly after class to be aware of assignments, quizzes, and other materials. Questions not answered in class are best asked before or after class. For quick questions, email is preferred and you can expect a response within 24 hours during the workweek (M-F).

For involved questions or discussions, please contact the TA/grader, and if the issue is not resolved, office hours or meetings.

**Course Prerequisites**

* Experience with Python/Java/C++ is beneficial as they are used in the course, but significant prior programming experience with any language will be sufficient.

**Course communication:**

We will be using the following class google group set up at the beginning of the course: TBD

* Make sure to too setup your canvas notification to receive announcements Canvas discussion
* Contact the instructor if you are not available to access the discussion forum after the first week of the course.

**Technical Requirements and Skills**

**Minimum Technology Requirements**

* Computers are **required for exams**
  + **In-class exams:**You will need to bring a laptop on exam days. These will be done individually on your computer in class. You will be expected to connect to the UNT wireless network.
  + Quizzes and exams will use the Canvas quiz system
    - [Canvas Technical Requirements (Links to an external site.)](https://clear.unt.edu/supported-technologies/canvas/requirements) (https://clear.unt.edu/supported-technologies/canvas/requirements)
  + Computers are **optional during class, outside of exam times**
    - There will be occasional in-class activities along with lecture that are not required, but may help in understanding and applying the material
  + Students will be expected to Download and install Anaconda Python version 3 and be able to open a Jupyter notebook

**Course Requirements**

**Readings, Quizzes, and Exams**

**Readings/Tutorials:** Generally, quizzes will be given based on the readings and tutorial material. As will be clear in the first few weeks, quizzes will test your knowledge on the most important aspects of the readings only.

**Exams:** Exam days are already posted and are considered fixed. Prior arrangements can potentially be made without loss of points, but have to be discussed. **Missed exams:** Exams cannot be missed without prior arrangements or later documented proof of extenuating circumstances.

**Assignments**

*Assignments are designed to engage you in your learning, so you can begin to apply these principles in practice and tailor them to your needs.*

**Assignments** are generally due at the end of the day one week after they are assigned, unless otherwise specified. Reports and presentation slides are to be turned in as PDF. Code is to be turned in , along with any files necessary to run your assignment. Results should be presentable, with appropriate comments for someone to follow what you have done. Assignments are to be turned in individually (except group projects), although students are encouraged to work together extensively. As observed below in class grade points, these small assignments will have minimal impact on grades - they are for learning and self-evaluation rather than grading.

**Grading**

Grades are determined by a simple points system, with a total of *at least* 100 pts as the goal though more than 100 points are likely. The expected distribution of points is given below, with the exact scale determined by point values given for each assignment, quiz, or exam - this is subject to minor modification based on actual points given. Note, due to the nature of the course, exams and quizzes are a significant means of establishing your final grade, so please complete the assignments in a timely way and study appropriately prior to each quiz and exam.

* Assignments, quizzes, and labs: 45 pts
  + in-class practice and activities: 5pts
  + Assignments: 20 pts
  + Wireshark labs: 20 pts
* Exams: 55 pts
  + Exam I: 25 pts (week 8)
  + Exam III: 30 pts (week 14)

**Late submission:** There is a 10%-per-day-late penalty for all assignments.

**Grading Scale:** A=90, B=80-89.9, C=70-79.9, D=60-69.9, F=0-59.9 pts. No exceptions. If class grades are low (e.g. I expect the vast majority of students will end with A’s and B’s), extra quizzes or assignments will be given to add points to the class. (Note, **these grades are based on points and not percentages, so if 120 points are given, you only need 90/120 for an A!**)

**Course Evaluation**

Student Perceptions of Teaching (SPOT) is the student evaluation system for UNT and allows students the ability to confidentially provide constructive feedback to their instructor and department to improve the quality of student experiences in the course.

**Course Policies**

**Examination Policy**

Exams will be on the computer using the Canvas quiz system. You need to bring a laptop on the appropriate exam days if in person. Exams must be taken at the same time whether remote or in person unless special accommodations have been made through the Office of Disability Accommodation (ODA). Other accommodations must be given by prior arrangement with the instructor, otherwise documentation proving an extenuating circumstance will have to be provided after the missed exam. Time will be limited, and all work will be individual. You are strongly encouraged to attempt to solve the tasks iteratively and incrementally - write code that works first, but works poorly, and improve from there, rather than write perfect code top to bottom. Exams will focus on the most recent material but are expected to be cumulative in scope.

**Technical errors during exams**

If during an online quiz or exam there is a technical error which affects your ability to complete the assignment, you are immediately to let the quiz or exam proctor know and the instructor will discuss ways to allow you to resume the test without giving an unfair advantage. In the event of any unexpected server outage or any unusual technical difficulty which prevents students from completing a time sensitive assessment activity, the instructor will extend the time windows and provide an appropriate accommodation based on the situation. Students should immediately report any problems to the instructor.

**Late Policy**

When assignments and project work are turned in after the due date, this places an undue burden on the instructor and TA, especially when this policy is abused. As a compromise, if the assignment or project work is turned in *prior to grading* there will be no reduction in points, however, grading can occur any time after the due date (including the following morning!). A request for missing submissions may be sent at the discretion of the TA or instructor, but is not guaranteed, and a reduction of points may also occur in a way that is consistent for the rest of the class.

**Attendance Policy**

You are expected to attend lectures and to complete all readings,  There is no need to let the instructor know you have missed a class, however, you are responsible for keeping up with the material covered in the class if you are not present. If a class is missed, you are expected to proactively reach out to classmates, the TA, or the instructor if there are any questions.

**Covid-specific:** Students are expected to attend class meetings regularly and to abide by the attendance policy established for the course.  It is important that you communicate with the professor and the instructional team prior to being absent, so you, the professor, and the instructional team can discuss and mitigate the impact of the absence on your attainment of course learning goals.  Please inform the professor and instructional team if you are unable to attend class meetings because you are ill, in mindfulness of the health and safety of everyone in our community. If you are experiencing any [symptoms of COVID-19 (Links to an external site.)](https://nam04.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.cdc.gov%2Fcoronavirus%2F2019-ncov%2Fsymptoms-testing%2Fsymptoms.html&data=04%7C01%7CMark.Albert%40unt.edu%7C78ae8efa93934faf9b2c08d964c2f85b%7C70de199207c6480fa318a1afcba03983%7C0%7C0%7C637651610818315514%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C1000&sdata=p6KzO09o70uu%2FaLmEx5uqCXyiaxfOV1EiVOc4Vpe6Ww%3D&reserved=0) ([https://www.cdc.gov/coronavirus/2019-ncov/symptoms-testing/symptoms.html (Links to an external site.)](https://nam04.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.cdc.gov%2Fcoronavirus%2F2019-ncov%2Fsymptoms-testing%2Fsymptoms.html&data=04%7C01%7CMark.Albert%40unt.edu%7C78ae8efa93934faf9b2c08d964c2f85b%7C70de199207c6480fa318a1afcba03983%7C0%7C0%7C637651610818325511%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C1000&sdata=rP%2Blhoazq0Yd9kHX9J4npYFxsYwxwpkBj0mpy2AjVsY%3D&reserved=0)) please seek medical attention from the Student Health and Wellness Center (940-565-2333 or askSHWC@unt.edu) or your health care provider PRIOR to coming to campus. UNT also requires you to contact the UNT COVID Team at COVID@unt.edu for guidance on actions to take due to symptoms, pending or positive test results, or potential exposure.

**Syllabus Change Policy**

Any substantial changes to the syllabus will be highlighted in red on the online platform. Approximate point values on future assignments may change, but after being assigned they will be fixed.

**UNT Policies**

**Academic Integrity Policy**

Academic Integrity Standards and Consequences. According to UNT Policy 06.003, Student Academic Integrity, academic dishonesty occurs when students engage in behaviors including, but not limited to cheating, fabrication, facilitating academic dishonesty, forgery, plagiarism, and sabotage. A finding of academic dishonesty may result in a range of academic penalties or sanctions ranging from admonition to expulsion from the University.

**ADA Policy**

UNT makes reasonable academic accommodation for students with disabilities. Students seeking accommodation must first register with the Office of Disability Accommodation (ODA) to verify their eligibility. If a disability is verified, the ODA will provide a student with an accommodation letter to be delivered to faculty to begin a private discussion regarding one’s specific course needs. Students may request accommodations at any time, however, ODA notices of accommodation should be provided as early as possible in the semester to avoid any delay in implementation. Note that students must obtain a new letter of accommodation for every semester and must meet with each faculty member prior to implementation in each class. For additional information see the [ODA website (Links to an external site.)](https://disability.unt.edu/) (https://disability.unt.edu/).

**Emergency Notification & Procedures**

UNT uses a system called Eagle Alert to quickly notify students with critical information in the event of an emergency (i.e., severe weather, campus closing, and health and public safety emergencies like chemical spills, fires, or violence). In the event of a university closure, please refer to Blackboard for contingency plans for covering course materials.

**Retention of Student Records**

Student records pertaining to this course are maintained in a secure location by the instructor of record. All records such as exams, answer sheets (with keys), and written papers submitted during the duration of the course are kept for at least one calendar year after course completion. Course work completed via the Blackboard online system, including grading information and comments, is also stored in a safe electronic environment for one year. Students have the right to view their individual record; however, information about student’s records will not be divulged to other individuals without proper written consent. Students are encouraged to review the Public Information Policy and the Family Educational Rights and Privacy Act (FERPA) laws and the University’s policy. See UNT Policy 10.10, Records Management and Retention for additional information.

**Acceptable Student Behavior**

Student behavior that interferes with an instructor’s ability to conduct a class or other students' opportunity to learn is unacceptable and disruptive and will not be tolerated in any instructional forum at UNT. Students engaging in unacceptable behavior will be directed to leave the classroom and the instructor may refer the student to the Dean of Students to consider whether the student's conduct violated the Code of Student Conduct. The University's expectations for student conduct apply to all instructional forums, including University and electronic classroom, labs, discussion groups, field trips, etc. Visit UNT’s [Code of Student Conduct (Links to an external site.)](https://deanofstudents.unt.edu/conduct) (https://deanofstudents.unt.edu/conduct) to learn more.

**Access to Information - Eagle Connect**

Students’ access point for business and academic services at UNT is located at: [my.unt.edu (Links to an external site.)](https://my.unt.edu/). All official communication from the University will be delivered to a student’s Eagle Connect account. For more information, please visit the website that explains Eagle Connect and how to forward e-mail [Eagle Connect (Links to an external site.)](https://it.unt.edu/eagleconnect)(https://it.unt.edu/eagleconnect).

**Student Evaluation Administration Dates**

Student feedback is important and an essential part of participation in this course. The student evaluation of instruction is a requirement for all organized classes at UNT. The survey will be made available during weeks 13, 14 and 15 of the long semesters to provide students with an opportunity to evaluate how this course is taught. Students will receive an email from "UNT SPOT Course Evaluations via IASystem Notification" (no-reply@iasystem.org) with the survey link. Students should look for the email in their UNT email inbox. Simply click on the link and complete the survey. Once students complete the survey they will receive a confirmation email that the survey has been submitted. For additional information, please visit the [SPOT website (Links to an external site.)](http://spot.unt.edu/) (http://spot.unt.edu/) or email spot@unt.edu.

**Getting Help**

**Technical Assistance**

[**UIT Help Desk** (Links to an external site.)](http://www.unt.edu/helpdesk/index.htm) (http://www.unt.edu/helpdesk/index.htm)

**Email**: [helpdesk@unt.edu](mailto:helpdesk@unt.edu)

**Phone**: 940-565-2324

**In Person**: Sage Hall, Room 130

**Walk-In Availability**: 8am-9pm

**Telephone Availability**:

* Sunday: noon-midnight
* Monday-Thursday: 8am-midnight
* Friday: 8am-8pm
* Saturday: 9am-5pm

**Laptop Checkout**: 8am-7pm

**Student Support Services**

* Registrar (https://registrar.unt.edu/registration)
* [Financial Aid (Links to an external site.)](https://financialaid.unt.edu/) (https://financialaid.unt.edu/)
* [Student Legal Services (Links to an external site.)](https://studentaffairs.unt.edu/student-legal-services) (https://studentaffairs.unt.edu/student-legal-services)
* [Career Center (Links to an external site.)](https://studentaffairs.unt.edu/career-center) (https://studentaffairs.unt.edu/career-center)
* [Multicultural Center (Links to an external site.)](https://edo.unt.edu/multicultural-center) (https://edo.unt.edu/multicultural-center)
* [Counseling and Testing Services (Links to an external site.)](https://studentaffairs.unt.edu/counseling-and-testing-services) (https://studentaffairs.unt.edu/counseling-and-testing-services)
* [Student Affairs Care Team (Links to an external site.)](https://studentaffairs.unt.edu/care) (https://studentaffairs.unt.edu/care)
* [Student Health and Wellness Center (Links to an external site.)](https://studentaffairs.unt.edu/student-health-and-wellness-center) (https://studentaffairs.unt.edu/student-health-and-wellness-center)
* [Pride Alliance (Links to an external site.)](https://edo.unt.edu/pridealliance) (https://edo.unt.edu/pridealliance)

**Academic Support Services**

* [Academic Resource Center (Links to an external site.)](https://clear.unt.edu/canvas/student-resources) (https://clear.unt.edu/canvas/student-resources)
* [Academic Success Center (Links to an external site.)](https://success.unt.edu/asc) (https://success.unt.edu/asc)
* [UNT Libraries (Links to an external site.)](https://library.unt.edu/) (https://library.unt.edu/)
* [Writing Lab (Links to an external site.)](http://writingcenter.unt.edu/) (http://writingcenter.unt.edu/)
* [MathLab (Links to an external site.)](https://math.unt.edu/mathlab) (https://math.unt.edu/mathlab)