CSCE 3530 Section - Introduction to Computer Networks

Instructor Information

Name: Dr. Asif Iqbal Baba

Office Location: E245E (or via Zoom)

Student Hours: **MW** 02:00-4:00PM (please email before to let me know you will be in the Zoom meeting)

Email: asif.baba@unt.edu

Course Description, Structure, and Objectives

This course covers study of problems and limitations associated with interconnecting computers by communication networks. ISO reference model, architecture of circuits, message and packet switching networks, network topology, routing, flow control, capacity assignment, protocols, coding and multiplexing. This course is hybrid and instruction/assignment submissions will occur online through Canvas.

This course has a module structure. Each module will have a reading / video / assignment to complete, and most modules will have a quiz, homework or exam.

Course Prerequisites or Other Restrictions

None.

Course Outcomes

Students will be able to:

1. Understand a conceptual view of the role of computers in communications.
2. Understand communication protocols in the Internet.
3. Be able to do fundamental network programming.
4. Understand different network architecture.
5. Recognize the role of application protocols.
6. Understand different routing and forwarding protocols.

Important Notice for F-1 Students taking Distance Education Courses

Federal Regulation

To read detailed Immigration and Customs Enforcement regulations for F-1 students taking online courses, please go to the Electronic Code of Federal Regulations websiteLinks to an external site.. The specific portion concerning distance education courses is located at Title 8 CFR 214.2 Paragraph (f)(6)(i)(G).

The paragraph reads:

(G) For F-1 students enrolled in classes for credit or classroom hours, no more than the equivalent of one class or three credits per session, term, semester, trimester, or quarter may be counted toward the full course of study requirement if the class is taken on-line or through distance education and does not require the student's physical attendance for classes, examination or other purposes integral to completion of the class. An on-line or distance education course is a course that is offered principally through the use of television, audio, or computer transmission including open broadcast, closed circuit, cable, microwave, or satellite, audio conferencing, or computer conferencing. If the F-1 student's course of study is in a language study program, no on-line or distance education classes may be considered to count toward a student's full course of study requirement.

University of North Texas Compliance

To comply with immigration regulations, an F-1 visa holder within the United States may need to engage in an on-campus experiential component for this course. This component (which must be approved in advance by the instructor) can include activities such as taking an on-campus exam, participating in an on-campus lecture or lab activity, or other on-campus experience integral to the completion of this course.

If such an on-campus activity is required, it is the student's responsibility to do the following:

1. Submit a written request to the instructor for an on-campus experiential component within one week of the start of the course.
2. Ensure that the activity on campus takes place and the instructor documents it in writing with a notice sent to the International Student and Scholar Services Office. ISSS has a form available that you may use for this purpose.

Because the decision may have serious immigration consequences, if an F-1 student is unsure about their need to participate in an on-campus experiential component for this course, they should contact the UNT International Student and Scholar Services Office

(telephone 940-565-2195 or email internationaladvising@unt.edu) to get clarification before the one-week deadline.

Student Verification

UNT takes measures to protect the integrity of educational credentials awarded to students enrolled in distance education courses by verifying student identity, protecting student privacy, and notifying students of any special meeting times/locations or additional charges associated with student identity verification in distance education courses.

See UNT Policy 07-002 Student Identity Verification, Privacy, and Notification and Distance Education CoursesLinks to an external site..

Use of Student Work

A student owns the copyright for all work (e.g. software, photographs, reports, presentations, and email postings) he or she creates within a class and the University is not entitled to use any student work without the student's permission unless all of the following criteria are met:

- The work is used only once.
- The work is not used in its entirety.
- Use of the work does not affect any potential profits from the work.
- The student is not identified.
- The work is identified as student work.

If the use of the work does not meet all of the above criteria, then the University office or department using the work must obtain the student's written permission.

Download the UNT System Permission, Waiver and Release Form

Transmission and Recording of Student Images in Electronically Delivered Courses

This course does not employ lecture capture technology to record class sessions.

Required/Recommended Materials

This course has digital components. To fully participate in this class, students will need internet access to reference content on the Canvas Learning Management System. If circumstances change, you will be informed of other technical needs to access course content. Information on how to be successful in a digital learning environment can be found at Learn AnywhereLinks to an external site.. There is no text required for the course – all resources are online.

Optional Texts

*Computer Networking: a Top Down Approach*Links to an external site.
by Jim Kurose and Keith Ross

*CompTIA Network+ Certification All-in-One Exam Guide, Ninth Edition (Exam N10-009)*Links to an external site.
by Mike Meyers and Jonathan Weissman

How to Succeed in this Course

Netiquette

Netiquette, or online etiquette, refers to the way students are expected to interact with each other and with their instructors online. Here are some general guidelines:

- Treat your instructor and classmates with respect in email or any other communication.
- Remember that all college level communication should have correct spelling and grammar (this includes discussion boards).
- Avoid slang terms such as “fr fr” and abbreviations such as “u” instead of “you.”
- Humor and sarcasm are highly encouraged. People who take the world seriously are in for a rough journey.
- Don’t lead your emails off with your social security and bank account numbers, password manager master password, home address, credit score, and dental record jpegs. Just three of those will suffice.
- No extra credit will be given for mentioning my kittenLinks to an external site..

See these Netiquette GuidelinesLinks to an external site. for more information.

Communication Expectations

Please send all communication as email via your official student UNT email (my.unt.edu).

Just like you, I receive a virtual ton of spam to my email address, and if it has *[EXT]* in the subject line, there's a ~95% chance I'm just deleting it. Additionally, I cannot discuss any student issues through external email due to FERPA, i.e. I cannot confirm that I *know* it's *you* I'm conversing with.

I have a 48 hour reply policy on all emails, excepting weekends and holidays. All grades will be posted promptly after grading has been completed.

Please come to me with any issues. Sending an email is free and if I can't resolve it, we can move the issue up the chain.

In your emails please include:

- **Subject**: the course (e.g. CSCE4600) that you are emailing about and a few words (aka, *the Subject)*
- **Body:** a signature with your email with your name and UNT ID number.

This helps me not only help you, but if there are multiple issues with the course (i.e. a module is broken for instance), I can quickly collate the issue. I flag these emails with my preferred colorLinks to an external site..

ODA

The University of North Texas makes reasonable academic accommodation for students with disabilities. Students seeking reasonable accommodation must first register with the Office of Disability Access (ODA) to verify their eligibility. If a disability is verified, the ODA will provide you with a reasonable accommodation letter to be delivered to faculty to begin a private discussion regarding your specific needs in a course. You may request reasonable accommodations at any time; however, ODA notices of reasonable 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 reasonable accommodation for every semester and must meet with each faculty member prior to implementation in each class. Students are strongly encouraged to deliver letters of reasonable accommodation during faculty office hours or by appointment. Faculty members have the authority to ask students to discuss such letters during their designated office hours to protect the privacy of the student. For additional information, refer to the Office of Disability AccessLinks to an external site. website (http://www.unt.edu/oda). You may also contact ODA by phone at (940) 565-4323.

Supporting Your Success and Creating an Inclusive Learning Environment

I value the many perspectives students bring to our campus. Please work with me to create a classroom culture of open communication, mutual respect, and inclusion. All

discussions should be respectful and civil. Although disagreements and debates are encouraged, personal attacks are unacceptable. Together, we can ensure a safe and welcoming classroom for all. If you ever feel like this is not the case, please stop by my office and let me know. We are all learning together.

Every student in this class should have the right to learn and engage within an environment of respect and courtesy from others. We will discuss our classroom's habits of engagement and I also encourage you to review UNT's student code of conduct so that we can all start with the same baseline civility understanding (Code of Student ConductLinks to an external site.) (https://deanofstudents.unt.edu/conduct)

Technical Assistance

Part of working in the online environment involves dealing with the inconveniences and frustration that can arise when technology breaks down or does not perform as expected. Here at UNT we have a Student Help Desk that you can contact for help with Canvas or other technology issues.

UNT Help DeskLinks to an external site.

Call: 940-565-2324

Email: helpdesk@unt.edu

Walk-in: Sage Hall, Room 330

Walk-in Hours: Monday–Friday: 8am - 5pm

Telephone Availability:

- Monday–Thursday: 8am – 9pm
- Friday: 8am- 5pm
- Saturday: 11am- 3pm

For additional support, visit Canvas Technical HelpLinks to an external site.
Laptop Checkouts Links to an external site.
The following library service desks provide laptop checkouts during hours of operationLinks to an external site.. MacBooks are only available at Willis Library.

- **Willis Library:** The SparkLinks to an external site., First Floor
- **Sycamore Library:** Sycamore Service DeskLinks to an external site.
- **Discovery Park:** Library Service DeskLinks to an external site., Room B112

Student Support Services

- RegistrarLinks to an external site.
- Financial AidLinks to an external site.
- Student Legal Services Links to an external site.
- Career CenterLinks to an external site.Links to an external site.
- Counseling and Testing ServicesLinks to an external site.
- Student Affairs Care TeamLinks to an external site.
- Student Health and Wellness CenterLinks to an external site.

Academic Support Services

- Academic Resource CenterLinks to an external site.
- Links to an external site.Academic Success CenterLinks to an external site.
- UNT LibrariesLinks to an external site.
- Writing LabLinks to an external site.
- Math LabLinks to an external site.

Miscellaneous College of Engineering links

- National Society of Black Engineers (NSBE)Links to an external site.
- Society of Hispanic Professional EngineersLinks to an external site. (SHPE)
- Society of Women Engineers (SWE)Links to an external site.
- Women in Computing (WiC)Links to an external site.

Assessing Your Work

Percentages of final grade are approximate and subject to change.

Assignment Percentages

Category	Percentage of Final Grade	Notes
Administrative Quizzes	9%	3 x Quizzes
Academic Quizzes	30%	15 x Quizzes
Exercises	21%	3 x Exercises
Programs	24%	3 x Programs
Final Exam	16%	Comprehensive

Grading Scale

Final Grade	Letter
90 – 100	A
80 – 89	B
70 – 79	C
60 – 69	D
< 60	F

Grades are rounded to the nearest whole integer (commercial rounding). There is no curving of grades, nor "extra" credit, as it is unfair to the other students.

UNT's grading system uses the letters A, B, C, D, F, P, NP, I, PR, NPR, and W.Links to an external site.

The letter **Z** is used to indicate that a grade was not properly received and/or recorded for a course.

Note: No grade points are allowed for grades F, P, NP, I, PR, NPR, W, or Z.

Course Topics

Module	Topics	Major Assignment
00	**Course Overview**	
01	**Network Foundations**	
02	**Ethernet Technologies**	
03	**Physical Deployment**	
04	**IPv4 Fundamentals**	
05	**Routing Protocols**	
06	**Services & Naming**	
07	**Security Fundamentals**	
08	**Switching Essentials**	
09	**IPv6 & WAN Technologies**	
10	**Wireless Networking**	
11	**Virtualization & Cloud**	
12	**Device Integration**	

13	**Operations & Protection**	
14	**Software-Defined Networking**	
15	**Network Simulation Tools**	
16	*No new material*	Final Exam

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 Canvas for contingency plans for covering course materials.

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.

Course Policies

Attendance and Participation

I have great respect for students who are balancing the demands of their coursework with the responsibilities of caring for family members. If you run into challenges that require you to miss assignment deadlines, please contact me or my TA. There may be some flexibility we can offer to support your academic success.

This course may involve a collaboration project, and participation is essential to learning. If included, this project-based activity requires you to be actively engaged in working together and submitting code.

If you are experiencing any symptoms of COVIDLinks to an external site. (https://www.cdc.gov/coronavirus/2019-ncov/symptoms testing/symptoms.html) 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.

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.

Assignment Policy

All assignments are posted to Canvas and should be submitted to Canvas. Assignments cannot be accepted through email.

Late Work Policy

No late submissions will be accepted for any reason. Please start work on assignments and quizzes well before the deadline and on a stable Internet connection to avoid any submission delays due to technical difficulties.

Canvas File Upload Policy

Assignments may require multiple file uploads.

Do not archive/compress/zip these into one file: Attach them individually.

The only acceptable file type for upload is what can be previewed automatically by DocViewer in CanvasLinks to an external site..

Please ensure you have actually submitted your files to Canvas; it is your responsibility to verify that the file has been uploaded and accepted.

AI (Artificial Intelligence) with AI (Academic Integrity) Policy

I expect you to use AI (GitHub Copilot, Cody, Ghostwriter, ChatGPT, etc.), in this class. Learning to use AI is an emerging skill, and I am happy to meet and help with these tools during office hours or after class.

Be aware of the limits of AI-based code generators:

- If you provide minimum effort prompts, you will get low quality results. You will need to refine your prompts to produce good outcomes. This will take work.
- Don't trust anything it says. If it gives you a number or fact, assume it is wrong unless you either know the answer or can check in with another source. You will be responsible for any errors or omissions provided by the tool. It works best for topics you understand.
- AI is a tool, but one that you need to acknowledge using. Please include a paragraph at the end of any assignment that uses AI explaining what you used the AI for and what prompts you used to get the results. Failure to do so is in violation of academic honesty policies.

Be thoughtful about when this tool is useful. Don't use it if it isn't appropriate for the case or circumstance.

Screenshot Submission Policy

Many assignments will have you submit screenshots to show you completed the work.

Do not take a photo with your phone. Take a native screenshot with your operating systemLinks to an external site..

This screenshot should show identifying information: No need to overthink this. The easiest way is just to open up a Notepad.exe (Windows) or Stickies (macOS) and enter your EUID, then take the screenshot of the assignment. Or you can open up university webmail in a browser tab and have your profile open in the screenshot.

If you have a 48" wide monitor, and the assignment only takes up 10% of your screen, please crop down the screenshot to only what is needed and no more.

Examination Policy

You may use the Internet or any printed resources during exams, but please do not rely on this as the exams and quizzes have a time limit and the questions are not easily 'Google-able'.

DO NOT POST quiz questions to any online venue (Quizlet, Chegg, CourseHero, etc.) or share quiz questions with other students (GroupMe, Discord, etc.). Violation of this policy will result in a zero for the assignment or exam. You may use online resources during the exam, but all quizzes and exams must be taken by yourself without human help.