

Course Syllabus

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LTEC 3530

Data Communications and Networking for Next Generation Learning

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Instructor

Dr. Fred McMahan

Assistant Professor

Department of Learning Technologies

Discovery Park, G171

Fred.McMahan@unt.edu (mailto:Fred.McMahan@unt.edu)**OFFICE HOURS**

Contact your instructor to schedule online or on-campus office hours.

RESPONSE TIME

Please note that my goal is to respond to student communications within 48 hours during weekdays. If for some reason I am unable to do so, I will follow up as soon as possible. I also always try to let you know ahead of time if I will be unreachable. Please do not expect me to return emails on the weekend.

ASSIGNMENT FEEDBACK

My goal is to return graded assignments to you within 1 week. If for some reason I am unable to do so, I will do my best to let you know in advance and will return your graded assignment to you as soon as possible.

Course Description

Foundational skills in data communications. Covers the basics of computer networking, including terms and concepts, contemporary network services, transmission media, and protocols. Students learn how protocols are used in networking implementations from many vendors, especially those most common in today's LANs and WANs.

PREREQUISITE

No prerequisite.

Learning Outcomes

COURSE LEVEL OUTCOMES

At the end of this course students will be able to successfully:

- CLO 1: Explain general concepts related to data communications and their use in the classroom.
- CLO 2: Ability to learn and describe various network types and how transmission travel across the networks.
- CLO 3: Understand the differences between bandwidth and speed and how they affect transmission across networks.
- CLO 4: Identify issues that arise with working with data communication and their use in the classroom.
- CLO 5: Understand how the internet works and how it can be integrated in learning environments.
- CLO 6: Demonstrate the ability to explain wireless networks and identify future trends in wireless communication.

MODULE LEVEL OUTCOMES

Throughout the modules in this course there are module-level outcomes listed. Next to each module level outcome (e.g., MLO 1.1) there is a number or numbers in parenthesis. That number or numbers correspond to the above course level outcomes (e.g., CLO 1). Everything you do in this course flows back to these course level outcomes.

Materials

REQUIRED

Computer Networking: A Top-down Approach by Jim Kurose & Keith Ross ISBN: 0-13-668155-7 Format: Paperback or ebook, 764 Pub. Date: 2020 Publisher: Pearson, Edition Description: 8th

Grades

Grades are determined as follows:

Course Grade Breakdown by Requirements

Assignments	Notes	Percentage
Quizzes	6 quizzes	30%
Discussions	4 forums	10%
Assignments	3 assignments	30%
WireShark	4 WireShark assignments	30%
Total	-	100

The course grading scheme follows:

Course Grading Scheme

Points	Letter Grade
100 to 90	A
89 to 80	B
79 to 70	C
69 to 60	D
59 or lower	F

Course Policies

The course is fully online in a 16 or 10 (summer) week format using Canvas (See Course Summary at the bottom of the page for schedule and due dates). Each module includes a **assignment**, **discussion**, and **quiz**. All students will participate, collaborate, and

progress together within each scheduled week.

There are no face-to-face campus meetings. Communication is a mixture of discussions, announcements, and emails. Video conferences may be organized either 1:1, group, or as a whole class if needed. Contact your instructor if you would like to schedule a Video conference.

ASSIGNMENTS

There are 3 assignments and 4 WireShark assignments in this course. These assignments require significant time at the computer. Students should plan to spend a minimum of six to nine hours a week of outside preparation for successful completion of this course.

Participation and punctuality are expected. Educational or Instructional technology is not *doing computer projects*; it is much more. Hence you need to be involved in class discussions and learning activities. Students may be dropped from the course with notice from the instructor due to lack of participation or non-attendance online.

Due dates will be announced in advance. Changes on the assignment's requirements or due dates may be announced at later dates via Canvas. It is the student's responsibility to keep up with updates and have all assignments ready on time.

DISCUSSIONS

There will be a discussion posting related to each Module topic. Discussion postings can be made on or before the due date of the discussion.

- No redos are allowed on discussion postings.
- All discussions require that students engage and reposed to other students discussion submission in a meaningful way.
- Replies to discussion postings can be made up to three days after the due date of the assignment.

QUIZZES

There will be a quiz associated with the content of each Module. Quiz questions are taken from material presented as well as the textbook chapters.

- Be sure to review the schedule for dates and times for all.
- Quizzes tend to run for three days starting on the day when an assignment is.
- Any quiz not completed during the dates indicated will be assigned a grade of zero, unless the student has made prior arrangements with the instructor to take the quiz at a later time.

LATE WORK

All course-related assignments are expected to be submitted on time. Any assignments not turned in by the stated deadline may be assigned a grade of zero unless the student has made prior arrangements with the instructor. If there are any questions concerning a late policy, please contact your instructor.

INCOMPLETES

The department complies with university policy regarding the assignment of an Incomplete Grade in any course. Please see [UNT Incompletes Policy](http://registrar.unt.edu/grades/incompletes) [↗ \(http://registrar.unt.edu/grades/incompletes\)](http://registrar.unt.edu/grades/incompletes) for more information. Per UNT policy, a grade of Incomplete can only be awarded to a student who is 1) passing the course and 2) has a justifiable and documented reason, beyond the control of the student, for not completing the course work on schedule. Notification and submission of documentation must be provided to the instructor at the time of the emergency.

TURNITIN NOTICE

Students will be required to submit written assignments for this class to Turnitin, a web-based plagiarism detection service. If your instructor requires you to use this service, please remove your title page and other personal information prior to submitting your assignment to Turnitin.

STUDENT CONDUCT and ACADEMIC INTEGRITY

All works submitted for credit must be original works created by the scholar uniquely for the class. It is considered inappropriate and unethical, particularly at the graduate level, to make duplicate submissions of a single work for credit in multiple classes, unless specifically requested by the instructor. Work submitted at the graduate level is expected to demonstrate higher-order thinking skills and be of significantly higher quality than work produced at the undergraduate level. You are encouraged to become familiar with the university's [Student Standards of Academic Integrity](https://policy.unt.edu/policy/06-003) [↗ \(https://policy.unt.edu/policy/06-003\)](https://policy.unt.edu/policy/06-003).

Of particular interest are the following terms:

- **Cheating** – intentionally using or attempting to use unauthorized materials, information, or study aids in any academic exercise. The term academic exercise includes all forms of work submitted for credit or hours.
- **Plagiarism** – the deliberate adoption or reproduction of ideas, words, or statements of another person as one's own without acknowledgement.
- **Fabrication** – intentional and unauthorized falsification or invention of any information or citation in an academic exercise.
- **Facilitating academic dishonesty** – intentionally or knowingly helping or attempting to help another to violate a provision of the institutional code of academic integrity.

GENERATIVE AI POLICY

Generative AI (e.g., ChatGPT, Copilot, Gemini, Claude, etc.) can be a powerful tool for learning networking concepts and helping you complete course work—but it is not a substitute for doing the work yourself. You are expected to build the skills to configure, observe, troubleshoot, and explain networks. AI may support your learning, but you must remain the primary author and analyst of anything you submit.

In this course, you may use AI tools to help you:

- Clarify concepts
- Draft outlines, organize explanations, and improve clarity/grammar of your writing.
- Get help interpreting error messages, command output, and Wireshark filters after you have attempted the task yourself.
- Compare approaches and check your reasoning (e.g., “Does my explanation of this capture make sense?”).

Three required principles

1. An AI cannot pass this course for you: submissions that read as fully AI-generated, or that do not reflect your own understanding, will not meet course expectations. You should be able to explain and defend your work.
2. You are responsible for accuracy: AI can be wrong. If you use it, you must verify key facts, commands, interpretations, and conclusions. Anything you submit must be correct and aligned with the course material.
3. AI use must be open and documented: if AI meaningfully contributed to an assignment (ideas, wording, steps, troubleshooting, interpretation), you must disclose how it was used.

How to document AI use (simple format)

At the end of your submission (or in a short “AI Use” note), include:

- Tool used: (name/version if known)
- Purpose: (e.g., “helped me interpret DNS vs ARP behavior in my capture”)
- What I provided: (e.g., my own notes, my filter, my screenshot—do not include private data)
- What I changed/verified: (e.g., “I rewrote the explanation and verified ports/protocol behavior using lecture notes”)

If you did not use AI:

- AI Use: None.

Using AI without disclosure, submitting work you do not understand, or presenting AI output as your own analysis may be treated as an academic integrity issue under course and university policy.

Technology

To be successful in this course, students should have basic keyboarding and computer skills, and be comfortable navigating the Internet. Microsoft Office compatible software is required for the completion of this course.

CANVAS

Please be sure that your device or devices meet the **technical requirements** for Canvas. [Technical requirements \(https://community.canvaslms.com/docs/DOC-2059\)](https://community.canvaslms.com/docs/DOC-2059) and [browser requirements \(https://community.canvaslms.com/docs/DOC-1284\)](https://community.canvaslms.com/docs/DOC-1284) are located in the [Canvas Student Guide \(https://community.canvaslms.com/docs/DOC-4121#jive_content_id_Computer_Specifications\)](https://community.canvaslms.com/docs/DOC-4121#jive_content_id_Computer_Specifications). If you need Technical Support with Canvas, click the Help link on the left side [Global Navigation \(https://community.canvaslms.com/docs/DOC-1281\)](https://community.canvaslms.com/docs/DOC-1281). From there you can Search Canvas Guides, Chat with Support, or Submit a Request for assistance. You can also contact the [UNT Help Desk \(http://it.unt.edu/helpdesk\)](http://it.unt.edu/helpdesk) for assistance with Canvas.

ZOOM

If video conferences are scheduled, they will be in [Zoom \(https://clear.unt.edu/supported-technologies/zoom\)](https://clear.unt.edu/supported-technologies/zoom). Zoom is UNT's web conferencing tool for courses and approved special use cases (e.g., student services such as advising, career center, and writing lab).

WireShark & TShark

WireShark is a network protocol analyzer and will be required for several group assignments in this course. This open source tool is a free download from the [Wireshark Website \(Opens external webpage\) \(https://www.wireshark.org/\)](https://www.wireshark.org/). TShark is a command line version of Wireshark. It is an alternative that can be used to complete your assignments. If for any reason you are having difficulty using Wireshark, please feel free to complete your assignments using TShark.

Course Evaluations

Students will be notified via email to complete the SPOT evaluation at the end of the semester.

Student Services

The following services and resources are available to UNT students:

- [MyUNT \(https://my.unt.edu/psp/papd01/EMPLOYEE/EMPL/h/?tab=NTPA_GUEST\)](https://my.unt.edu/psp/papd01/EMPLOYEE/EMPL/h/?tab=NTPA_GUEST)
- [UNT Counseling and Testing Services \(http://studentaffairs.unt.edu/counseling-and-testing-services\)](http://studentaffairs.unt.edu/counseling-and-testing-services)
- [UNT IT Help Desk \(http://it.unt.edu/helpdesk\)](http://it.unt.edu/helpdesk)
- [UNT Libraries \(https://www.library.unt.edu/\)](https://www.library.unt.edu/)
- [UNT Office of Disability Accommodations \(ODA\) \(https://disability.unt.edu/\)](https://disability.unt.edu/)
- [UNT Registrar \(https://registrar.unt.edu/\)](https://registrar.unt.edu/)
- [UNT Student Services \(https://essc.unt.edu/\)](https://essc.unt.edu/)

University Policies

ADA

The University of North Texas 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 you with an accommodation letter to be delivered to faculty to begin a private discussion regarding your specific needs in a course. You 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. Students are strongly encouraged to deliver letters of 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 see the [Office of Disability Accommodation website](http://www.unt.edu/oda). [↗\(http://www.unt.edu/oda\)](http://www.unt.edu/oda). You may also contact them by phone at (940) 565-4323.

Wireshark will be used in this course for several modules. In the event you have an accessibility need, or assistance, please contact Dr. McMahan for an alternative resource to Wireshark & TShark

ADD/DROP

The department adheres to the add/drop schedule established and published by the UNT Office of the Registrar. See the registration calendar for information.

STUDENT CONDUCT and DISCIPLINE

You are encouraged to become familiar with the [University Student Code of Conduct](https://deanofstudents.unt.edu/conduct) [↗\(https://deanofstudents.unt.edu/conduct\)](https://deanofstudents.unt.edu/conduct) maintained by the Dean of Students in the Office of Student Affairs: .

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 website](http://www.ecfr.gov) [↗\(http://www.ecfr.gov\)](http://www.ecfr.gov).

The specific portion concerning distance education courses is located at "Title 8 CFR 214.2 Paragraph (f) (6)

(i) (G)" and can be found buried within this document: <https://www.ice.gov/sevis/schools/reg#f6g> [↗\(https://www.ice.gov/sevis/schools/reg#f6g\)](https://www.ice.gov/sevis/schools/reg#f6g).

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 his or her need to participate in an on-campus experiential component for this course, s/he should contact the UNT International Student and Scholar Services Office (940-565-2195 or internationaladvising@unt.edu (<mailto:internationaladvising@unt.edu>)) to get clarification before the one-week deadline.

Course Information Module

Read the [Netiquette \(https://unt.instructure.com/courses/144626/pages/netiquette\)](https://unt.instructure.com/courses/144626/pages/netiquette) page to proceed with the Course Information Module requirement.

Course Summary:

Date	Details	Due
	 Module 1 Assignment (https://unt.instructure.com/courses/144626/assignments/3054964)	due by 11:59pm
Sun May 24, 2026	 Module 1 Discussion: Data Communications History (https://unt.instructure.com/courses/144626/assignments/3054962)	due by 11:59pm
	 Quiz 1 (https://unt.instructure.com/courses/144626/assignments/3054954)	due by 11:59pm
Sun May 31, 2026	 Module 2 Assignment (https://unt.instructure.com/courses/144626/assignments/3054965)	due by 11:59pm
	 Quiz 2 (https://unt.instructure.com/courses/144626/assignments/3054958)	due by 11:59pm
Sun Jun 7, 2026	 Module 3 Discussion Data Communication Issues (https://unt.instructure.com/courses/144626/assignments/3054961)	due by 11:59pm
	 Quiz 3 (https://unt.instructure.com/courses/144626/assignments/3054955)	due by 11:59pm
Sun Jun 21, 2026	 WireShark Introduction Assignment (https://unt.instructure.com/courses/144626/assignments/3054968)	due by 11:59pm
Sun Jun 28, 2026	 WireShark TCP and UDP (https://unt.instructure.com/courses/144626/assignments/3054970)	due by 11:59pm
Sun Jul 5, 2026	 Quiz 4 (https://unt.instructure.com/courses/144626/assignments/3054953)	due by 11:59pm
	 WireShark IP (https://unt.instructure.com/courses/144626/assignments/3054967)	due by 11:59pm
Sun Jul 19, 2026	 Module 6 Discussion (https://unt.instructure.com/courses/144626/assignments/3054959)	due by 11:59pm
	 Quiz 5 (https://unt.instructure.com/courses/144626/assignments/3054956)	due by 11:59pm

Date	Details	Due
	 WireShark Online Meeting Tools (Group Assignment) (https://unt.instructure.com/courses/144626/assignments/3054969)	due by 11:59pm
	 Module 7 Assignment (https://unt.instructure.com/courses/144626/assignments/3054966)	due by 11:59pm
Fri Jul 24, 2026	 Module 7 Discussion Wireless Networks (https://unt.instructure.com/courses/144626/assignments/3054960)	due by 11:59pm
	 Quiz 6 (https://unt.instructure.com/courses/144626/assignments/3054957)	due by 11:59pm