SYLLABUS
BCIS 5620-001: Networking and Telecommunication
IN-PERSON Tuesdays 6:30PM BLB-010
Spring 2023

Instructor: Dipakkumar P Pravin, PhD, Office: BLB 357-B
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Zoom URL for Recording ONLY: Tuesdays 6:30 PM to 9:20 PM CST
Zoom Meeting ID: 862 7563 6896 Password: S23-5620
Zoom-URL:
https://unt.zoom.us/j/86275636896?pwd=QkRtOGpLRFYydjl2WHhiK05KWGJjUT09

Zoom Office hours: Wednesday @ 12:00 Noon to 1:00PM CST (or by appt)
Zoom Meeting ID: 550 363 5876 Password: 14221
Zoom-URL
https://unt.zoom.us/j/5503635876?pwd=SXRPZ3JVZWFabk92NXptYW83UHY4dz09

TA NAMES, HOURS & ZOOM:

- TA Office: TBD
- TA Zoom Link: TBD

COMMUNICATION PREFERENCES:

1. Use (ONLY) discussion board on Canvas for all course related questions!
2. Use Email, ONLY for specific personal/confidential questions, please use subject line prefix **S23-5620-00x** <your topic> ; where 00x should be your specific class section, that is 001.
3. Text ONLY for *urgent* situations (personal cell number on Canvas): Start Text with: "S23-5620-001": your name. Incomplete texts will not be responded to. Where 00x should be your specific class section.
4. Call (personal cell number on Canvas) in case of a *real* emergency!
5. Please DO NOT SEND ME WhatsApp, Signal, Discord, GroupME, **Teams**, Messenger, or ANY social media messages.
6. Please DO NOT use Canvas Inbox or Canvas Email
7. Please review communication guidelines at Online Communication Tips (https://clear.unt.edu/online-communication-tips)

COURSE DESCRIPTION

This course is a detailed introduction to computer networking and related aspects. The course will cover network security, and network technology within the framework of a business environment. Topics include the layered implementation of TCP/IP networks, a few fundamental applications that allow a network to become "the internet", how (and if, or to what level) a network can be secured. The course will focus heavily on "hands-on" skill that a student gains besides the understanding of how a network works.

Why is this course important? Information systems have been the central nervous systems of any organization since forever—technologies come and go, but the data/information remains. It is critical to efficiently move the information within any business (or any human) enterprise,

and it is the networks that provide the critical infrastructure for the entire human race to survive and thrive. Without networks our own survival will become extremely challenging—the recent pandemic has given a big warming about it.
This course will use the material that forms the basis of CompTIA'a Network+ Certification. While the course will not cover all the topics needed for Network+ Certification, it will provide detailed knowledge of the networking and related technologies. This elective course is meant for the those wanting to become Information Systems and Technology experts. The course will help students decide if they want to pursue networking as their expertise or not and in the process, it will give fundamental insights about networking technology and issues that every Information Systems and Technology professional must understand.

Course Learning Objectives

By the end of this course, students will be able to:
1. Describe the architecture of TCP/IP Networks, including addressing schemes, network flows & networking devices.
2. Explain how a network is implemented and related applications to make it work, e.g. DNS, DHCP, PING, etc.
3. Explain how small networks are joined together to make the Internet.
4. Understand how to make a network safe. Answer, why is network not safe to begin with?
5. Understand, What is a "cloud".

PREREQUISITES

The MOST IMPORTANT prerequisites are the *ability to reason*, *get work done on time*, and *ask questions*. Did we mention that ability to *ask questions* is a prerequisite? If not, here it is again: "*ability to ask questions is a prerequisite*". Please do develop, borrow, buy, steal, learn to pretend, or somehow acquire a habit to *ask questions*!

While the course assumes no specific knowledge of any specific technology, it is important that the student be conformable with using a computer and specifically the command line applications. Specifically, if you can use "Command Prompt" on windows (or terminal on Mac) to do the following, you are in a good position to start this course:

a. Find current directory
b. Create a file
c. List all files in a directory
d. Copy a file
e. Read the contents of a file
f. Delete a file
g. Create a directory
h. Change your current directory.

Software & Web Sites for the course.

Software required:

- We will be using a specific virtual machine for our course that is provided on the college of business (RCoB) network.

Websites:

- For any external website**, best practice is to use your personal email** so that you can retain the access if need be after the class or your education is over.

- Access to CompTIA Network+ (N10-008) https://www.ucertify.com/p/comptia-n10-008.html is required for this course. More details for purchasing the course will be available during the first week of the classes.
- At the uCertify.com site, the entire book is available and besides, it will be used for regular quizzes and some lab work. The grades from the site will be integrated back to the Canvas course.
- The final discounted price for you (the student) for this course for 4 months access is $65.00. However, if anyone is unwilling or unable to get the access to the course, please contact the instructor ASAP.
- Physical copy of the book is not required.

Course Canvas Site:

- Course announcements and additional course materials will be posted on Canvas.
- Canvas is available thru a mobile App, it's a very useful app and highly recommended.

General technology needs:

Students are expected to have a personal computer and bring to the classroom. Inside the entire UNT campus students have excellent Wi-Fi access.

- Install UNT's Respondus browser on the laptop/desktop from UNT Recommended site (https://download.respondus.com/lockdown/download.php?id=165715487.)
- Install Zoom app on laptop/desktop and optionally on your smart phone or other suitable devices.

Rules of Engagement

Rules of engagement refer to the way students are expected to interact with each other and with their instructors online or offline. Here are some general guidelines:

- Treat your instructor and classmates with respect in email or any other communication.
- Unless specifically invited, do not refer to your instructor by their first name.
- Use clear and concise language.
- Remember that all college level communication should have correct spelling and grammar (this includes discussion boards and emails).
- Avoid slang terms such as "wassup?" and texting abbreviations such as "u" instead of "you." Why? Well, such terms may not be known or understood universally.
- Use standard fonts such as Ariel, Calibri, or Times new Roman and use a size 10 or 12-point font.
- Avoid using the caps lock feature AS IT CAN BE INTERPRETTED AS YELLING.
- Limit and possibly avoid the use of emoticons like :) or ;-(
- Be cautious when using humor or sarcasm as tone is sometimes lost in an email or discussion post and your message might be taken seriously or sound offensive.
- Be careful with personal information (both yours and other's).
- Do not send confidential information via e-mail

See these Engagement Guidelines (https://clear.unt.edu/online-communication-tips) for more information.

COURSE SCHEDULE

The topics, assignments and dates given in the syllabus **are subject to change**. All necessary changes will be announced in advance. You are responsible for being aware of such changes.

Week	Week-of	Topics and Readings	Deliverable
1	Jan-16	Course overview / Introductions / chit-chat Access Course VM, Run a few commands	Bring one single, blank page to the class.
2	Jan-23	Ch 1 The OSI Model and Encapsulation	
3	Jan-30	Ch 2 Network Topologies and Types	HOIC-1 Due Feb-02
4	Feb-06	Ch 4 IP Addressing (Basics)	Lab-1 DueFeb-09
5	Feb-13	Ch 4 IP Addressing (Subnetting) Ch 5 Common Ports and Protocols	
6	Feb-20	Ch 6 Network Services Ch 23 Network Software Tools and Commands	HOIC-2 Due Feb-16
7	Feb-27	**Midterm Exam (Tuesday February-28)** (**MCQ**: Ch. 1,2, 4, 5, 6, 23) Lockdown Browser with WebCam Exam Questions are Copyrighted.	Lab-2 Due Mar-03
8	Mar-06	Ch. 8 Cloud Concepts	
		March-13 to 18 SPRING BREAK	
9	Mar-20	Ch 9 Various Network Devices	HOIC-3 Due Mar-23
10	Mar-27	Ch 10 Routing Technologies and Bandwidth Management	Lab-3 Due Mar-29
11	Apr-03	Ch 16 Common Security Concepts	Practice Hands-on Exam Available
12	Apr-10	Ch 17 Common Types of Attacks	Lab-4 Due Apr-13
13	Apr-17	Ch 13, 14, 15 Selected topics on Monitoring and Security	
14	Apr-24	Review for the Hands-on and Final Exam	
15	May-01	**Hands-on Exam (Tuesday May-02)** 90 Minutes, 5 Questions, 20 points Lockdown Browser with WebCam Exam Questions are Copyrighted.	
16	May-08	**Final Exam (Tuesday May-09)** (**MCQ**: Comprehensive Final) Lockdown Browser with WebCam Exam Questions are Copyrighted.	

COURSE ASSIGNMENTS AND EVALUATION

Instructor may invite randomly selected team and/or individual student to meet over zoom or in person (based on both parties' convenience). The purpose of such meetings will be to give the team or a student an opportunity to explain their responses to work they have submitted to earn grades. If the team or student fails to explain their responses/work or fails to come to the meeting, they may lose all earned points for that activity and may be subject to further penalty or investigation(s) of their prior work and may even be reported for academic integrity violations which may result in action leading up to removal from the course.

In other words, above paragraph states **that the instructor may challenge a team or an individual student to prove that the responses/work submitted is their own** and if they fail to do so then the team or individual student may be subject to further investigation and/or penalty.

Course EXAMS, QUIZ and other evaluation related material is COPYRIGHTED—DO NOT RECEIVE, OR DISTRIBUTE such material, any such incidence is a violation, and YOU WILL BE SUBJECTED TO VIOLATION PENALTY.

Your performance will be evaluated as follows:

Assignments		**Points**
Individual	10 Chapter Quizzes: each 10 points, Ch 1, 2, 4, 5, 6, 8, 10, 14, 16, 17	100
Team	4 Labs, each 10 points	40
Individual	3 HOIC, Hands-on In-Class each 10 points	30
Individual	Peer Review	10
Individual	Hands-on Exam (5 questions each 4 points, 90 minutes)	20
Individual	Mid-Term Exam (100 Questions each 2 points)	200
Individual	Final Exam (100 Questions each 2 points)	200
TOTAL*		**600**

*Bonus points may be announced, at the instructor's discretion but not guaranteed. The total bonus points opportunities will not be more than 20 points. For any bonus points there will be NO MAKE-UP opportunities.

** Peer review points earned by an individual will be the average of earned points from the other team members. Those who do not submit evaluation for their peers will earn 0 (zero) points for themselves.

Grades will be assigned as follows:

The letter grading scale (A-F) is based on the total points earned (including any bonus points) or class rank whichever is better for student.
A = 540+ OR top 30% based on total enrolled (after last date to drop)
B = 480-539 OR Next 45% based on total enrolled (after last date to drop)
C = 420-479 OR Next 17% based on total enrolled (after last date to drop)
D = 360-419 OR Next 4% based on total enrolled (after last date to drop)
F = 0-359 OR Bottom 4% based on total enrolled (after last date to drop)

Under rare circumstances, instructor may apply some curve and/or offer opportunity to earn bonus points. Bonus points opportunities may be sporadic, announced at the last moment, and

available for a limited time—there is NO make-up opportunities if you miss such bonus points opportunities.

Homework assignments

There will be 4 homework/lab assignments as outlined above, all are team based. As a part of the class, you will work on a FIVE (5)-person team. All labs will be of technical nature and may include installation and configuration of SW, writing queries, and the use of various computing tools. Some of the homework assignments will need to be submitted using Turnitin and will be checked for proper attribution and citations of source materials and **plagiarism**.

Quizzes

There will be 10 quizzes designed to check students' understanding of the module material and to promote student engagement. Quizzes will be timed, contain a variety of closed and (sometimes) open-ended questions, and reflect the content of assigned module readings and end-of-module assignments. Quiz questions will generally be similar but easier than exam questions. All quizzes need to be answered individually without help from other students—this is to benefit one's own learning. Each quiz allows 2 attempts, and the best score will be the final score. In-class assignments (if any) may be individual or group assignments, with students forming ad hoc groups for each assignment. In-class assignments will be submitted by the group during the class.

Managing teamwork.

Working as a part of a team is a necessity in today's world, so learning to be part of a team is an essential component of this course and it is a required part of the course work.

Students will become part of a team of their own choice in the first week of the class. Instructor will help form a team if someone is having difficulty joining/forming a team. All team members are expected to contribute equitably to the project. It is up to the team to determine equitable distribution of responsibilities for the project. If a team member is not actively contributing to the project, the team is allowed to fire a team member at any time **before the Lab-1 is due**. Each team will choose a team leader, but the team leader has no special privileges except the responsibility to keep the team together. To fire a team member, the team should first issue a warning to the non-contributing team member which clearly states the expectations of contributions, followed (no less than one week later) by a firing notice signed by all remaining team members sent to the team member and the instructor. A team member fired from a team will not receive credit for any assignments submitted by the team after the date of "firing". Similarly, a team member can elect to quit a team following a similar process. A team member fired by a team or voluntarily leaving the team may team up with other "unemployed" student(s).

Individual submissions are DISCOURAGED but may be rarely allowed in documented exceptional circumstances with prior approval. The instructor will allow anyone to join or form a new team after the assignment-1 is submitted. Thus, assignment-1 should be considered, for a group of individuals, as a practice and test run of becoming a team.

Peer Review Bonus Points: At the end of the semester, each team member submits a peer evaluation document reflecting their score of all other team members BUT not for themselves. The instructor will average those scores for each individual member and assign the final peer review bonus points to everyone. Instructor reserves the right to set aside any earned points and assign as little as 0 (zero) to a student as they see fit. Those who do not submit score for their peers will earn 0 (zero) points for themselves.

Exams

There will be a mid-term exam and a final exam. Both exams will be administered as indicated in the schedule. An exam WILL require the use of a laptop with a Respondus lockdown browser and a WebCam. Students would need to use their own laptop for the exam. Laptops are available for check out from UNT libraries. No make-up exams will be given with the exception of cases of documented medical or family emergency or some extra ordinary circumstances beyond one's control.

For all exams using online proctoring tools (e.g., LockDown Browser), you will be asked to show a thorough 360-degree view of your exam environment. If for any reason, you are unable or unwilling to do provide the 360-degree view of your environment, your exam results will be withheld pending 1-on-1 over zoom review of the exam with the instructor.

COURSE POLICIES

Late Submission Policy

All quizzes, assignments, HomeWorks, projects, reviews are due at the time indicated in the schedule. There is NO exception to this policy except for documented medical or family emergency or some extra ordinary circumstances beyond one's control.

Student email information

Enabling students' access to certain web or cloud computing resources used in this class requires releasing student UNT email information to cloud providers and affiliated parties. It is your responsibility to notify the instructor within 5 days from the beginning of the semester if you DO NOT want your email information to be released. In such case, you assume the responsibility for procuring access to the necessary cloud resources.

Professional Communication

Students will communicate with the instructor verbally and in writing using professional language. All written communication will be composed using proper grammar and spelling. All course content related, and other technical questions and comments are to be conducted only via the discussion boards set-up on Canvas. Use direct emails (NOT CANVAS) for question or comments of personal nature (not on canvas). All student emails to the instructor will be sent from the student's official UNT email with a subject line starting with: **BCIS 5420: <Type of concern>**. *Emails sent in violation of these guidelines will be ignored*. All grade related questions and concerns need to be communicated in writing over email (not on canvas) with the subject line: **BCIS 5420: Grade Concern**. Any grade-related emails should only contain information relevant to the grade in question. Any references to your grades in other courses, or the impact of the grade on your overall academic standing are irrelevant and will result in the grade concern being dismissed.

Class attendance and participation

Since this is an online class, there is no class attendance. However, regular attendance in the Q&A sessions are HIGHLY RECOMMENDED. During the online session, the use of WebCam is mandatory—if you have special circumstances for not using WebCam then let the instructor know at the start of the session. Online session does NOT mean you can join anytime, please join within the first 5 minutes of the beginning of the session.

Student conduct

Students are expected to behave in a respectful and professional manner when in class and when interacting with the instructor and other students. Talking in class during the lecture is

very disruptive even when done at a low voice. If you want to contribute or ask a question, please raise your hand. Students engaging in disruptive behavior, including talking during the lecture without an explicit permission, will be asked to leave the classroom resulting in an absence and a corresponding grade penalty as described in the section on attendance. Disruptive students, including those talking in class without permission of the instructor, who refuse to leave the class will incur grade penalties up to a failing grade in the course, will be reported to the Dean of Students, and may be forcefully removed from the classroom by the UNT police.

Health-related absences

Students are expected to attend class meetings regularly and to abide by the attendance policy established for the course. If you cannot attend a specific class section due to a health-related reasons, it is important that you communicate with the me prior to being absent so that we can discuss and mitigate the impact of the absence on your attainment of course learning goals. If you experience a medical emergency that may result in more than one absence or inability to submit assignments on time, please notify the Dean of Students and the instructor as soon as possible to minimize the impact on academic standing.

Class Recordings & Student Likenesses

I may record class lectures and presentations, and may provide access to recordings to students who miss a class due to a medical or health reason. Class recordings are the intellectual property of the university or instructor and are reserved for use only by students in this class and only for educational purposes. Students may not post or otherwise share the recordings outside the class, or outside the Canvas Learning Management System, in any form. Failing to follow this restriction is a violation of the UNT Code of Student Conduct and could lead to disciplinary action.

Penalty for academic integrity violations

Students found to be in violation of academic integrity standards will incur penalties ranging from a failing grade of a specific assignment to a failing grade in the course. Cheating on an exam or assisting others in cheating, misrepresenting others' work as your own, and severe plagiarism (over 30% similarity on the project) will result in a grade of **F** in the course. All academic integrity violations will be reported to the Academic Integrity Office.

COLLEGE OF BUSINESS AND UNIVERSIY POLICIES AND PROCEDURES

Academic Integrity Standards and Consequences

According to UNT Policy 06.003, Student Academic Integrity (available at https://vpaa.unt.edu/fs/resources/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.

Additional information regarding RCOB and ITDS academic integrity policies and practices will be posted on the Canvas site. All students are expected to sigh and submit a copy of ETHICAL BEHAVIOR IN ITDS CLASSES form.

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. The Code of Student Conduct can be found at https://deanofstudents.unt.edu/conduct.

ADA Accommodation

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 at http://disability.unt.edu

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 at www.spot.unt.edu or email spot@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.

Emergency Evacuation Procedures for Business Leadership Building

Severe Weather. In the event of severe weather, all building occupants should immediately seek shelter in the designated shelter-in-place area in the building. If unable to safely move to the designated shelter-in-place area, seek shelter in a windowless interior room or hallway on the lowest floor of the building. All building occupants should take shelter in rooms 055, 077, 090, and the restrooms on the basement level. In rooms 170, 155, and the restrooms on the first floor.

Bomb Threat/Fire. In the event of a bomb threat or fire in the building, all building occupants should immediately evacuate the building using the nearest exit. Once outside, proceed to the designated assembly area. If unable to safely move to the designated assembly area, contact one or more members of your department or unit to let them know you are safe and inform them of your whereabouts. Persons with mobility impairments who are unable to safely exit the building should move to a designated area of refuge and await assistance from emergency responders. All building occupants should immediately evacuate the building and proceed to the south side of Crumley Hall in the grassy area, west of parking lot 24.