College of Business Administration

CIS 3347-110, CRN 11355, Data Communications and Infrastructure Summer 2022 (June 06-July 29) Texas A&M University-Central Texas

COURSE DATES, MODALITY, AND LOCATION

This course is an online using the TAMUCT Canvas Learning Management System: [https://tamuct.instructure.com]. The online course contents will be made available using the TAMUCT Canvas Learning ManagementSystem: [https://tamuct.instructure.com]. All announcement regarding homework assignments, class tests, midterm/final exams will be posted in Canvas. Students are expected to access Canvas course page regularly to get any update regarding this course. They can also install Canvas student app on their phone.

INSTRUCTOR AND CONTACT INFORMATION

Instructor: Daya Nand, Ph.D.

Phone: Cell -432-254-1032 (contact in case of emergency)

Email: Canvas Inbox (preferred). If the canvas is unavailable, email me: daya.nand@tamuct.edu.

Office Hours

Tuesday/Thursday 11:00 am -12:00 pm (virtually via course chat option or WebEx/Teams meeting). I will also be available for students on an appointment basis. Send me an email (daya.nand@tamuct.edu) to schedule an appointment to meet.

Student-instructor interaction

Students are encouraged to send all course-related correspondence to Canvas email message. Students will use TAMUCT email only when Canvas is not available. Students should use their university email address to send the email to the course instructor.

WARRIOR SHIELD

Emergency Warning System for Texas A&M University-Central Texas

SAFEZONE. SafeZone provides a public safety application that gives you the ability to call for help with the push of a button. It also provides Texas A&M University-Central Texas the ability to communicate emergency information quickly via push notifications, email, and text messages. All students automatically receive email and text messages via their myCT accounts. Downloading SafeZone allows access to push notifications and enables you to connect directly for help through the app.

You can download SafeZone from the app store and use your myCT credentials to log in. If you would like more information, you can visit the SafeZone website [www.safezoneapp.com].

To register SafeZone on your phone, please follow these 3 easy steps:

Download the SafeZone App from your phone store using the link below:

iPhone/iPad: [https://apps.apple.com/app/safezone/id533054756]

Android Phone / Tablet

[https://play.google.com/store/apps/details?id=com.criticalarc.safezoneapp]

Launch the app and enter your myCT email address (e.g. {name}@tamuct.edu)

Complete your profile and accept the terms of service

COURSE INFORMATION

Course Overview and description

A study of voice and data communications technologies, concepts, and applications, including communications terminology, hardware, software, protocols, and managerial issues in data and voice communications. Topics include alternatives available in hardware, software, and transmission facilities; design integration; and selection and implementation of communications solutions. In addition, students explore the current and future impact and directions of these technologies.

Course Objective or Goal

Student Learning Outcomes

Clo1. Illustrate network behavior and principles employed in an organization and the underlying operation of the communication networks.

Clo2. Demonstrate the details of data and signals in Computer Networking and analyze the correct operation of various protocols

Clo3. Understand the basic principles of Internet protocols and various internet services.

Clo4. Describe the fundamental principles of information technology security

Outcome	Clo1	Clo2	Clo3	Clo4
Common Core				
Pslo1:Communicate effectively on technical subjects appropriate to the discipline	Р	Р	Р	
Pslo2:Recognize a reasoned resolution to an ethical challenge in computing context				
Pslo3:Apply knowledge to address the IT security needs of an organization				Р
Pslo4:Design appropriate computing solutions to business problems				

Competency Goals Statements (certification or standards)

None

Required Reading and Textbook(s)

Business Data Communications and Networking

Author: Jerry FitzGerald, Alan Dennis, Alexandra Durcikova.

ISBN: 978-1119702849.

Textbook companion website: https://www.wileystudentchoice.com/

Note: An electronic version of the book may be available. A student of this institution is not under any obligation to purchase a textbook from a university-affiliated bookstore. The same textbook may also be available from an independent retailer, including an online retailer.

Supplemental Material: The course textbook will be supplemented with other materials including handouts, oral presentations, software demonstration, PowerPoint presentations, etc.

COURSE REQUIREMENTS

Reading Assignments:

All assigned chapters will be used as a basis for canvas discussions. Students are expected to study the required chapter before each class session.

Students are required to complete one midterm exam, one final exam, five class tests, four homework assignments, one course presentation (Video narration and a PowerPoint slide) and four discussion questions. The topic of all exams will be declared in the canvas portal. Canvas discussions are counted towards class participation points for this course.

Class Tests

There will be five class tests for this online course. The class tests will be conducted online through Canvas course website. Each class test will be worth 48 points.

Exams

There will be one midterm and one final exam. The midterm exam will contain **200** points, and the final exam will contain **200** points. The final exam will **NOT** be comprehensive for this course.

Assignments

Four assignments (homework assignments) will be given to the students. The due dates of these assignments will be posted in canvas course portal. Each assignment will be worth **60** points.

Course Discussions as Class participations

Following the course chapter presentations in every week is mandatory for this course. Canvas discussions (as well as class attendance) will be counted toward class participation marks. Canvas discussions will be posted on the Discussions tab in Canvas portal. Total discussion questions are worth **40** points.

Course Presentation

This course will require students to present a topic related to Data Communication. Students will prepare a PowerPoint slide and upload it to the Canvas portal. This presentation is worth **80** points.

Grading Criteria Rubric and Conversion

The distribution of points in different activities and the grading scheme are mentioned below:

Student Activity	Quantity	Points	Total
Class Tests	5	48	240
Assignments	4	60	240
Midterm Exam	1	200	200
Final Exam	1	200	200
Course Presentation	1	80	80
Canvas Discussions	4	10	40
Total			1000

Point Range	Letter Grade
1000-900	А
899-800	В
799-700	С
699-600	D
599-0	F

Signature assignments For PSLO 1:

Choose from the following topics (or use your own topic that is related to course content) for your research report:

- 1. IPV6 Implementation (IPV6 structure, feasibility of implementing an IPv6 protocol, business ramifications of implementing IPv6)
- 2. Wired Network Security (Controlling access, Access rights, Protocols, Security policy design issues, Standards)
- 3. Wireless Network Security (Configuring wireless access points/adapters, WLAN vulnerabilities, Protocols, WPS, WEP, WPA2, IEEE standards)
- 4. Crytography (Includes Encryption, Decryption, Digital signatures, PKI, PGP)
- 5. Network Design and Management (Network Modeling, Feasibility studies, Capacity Planning, Creating a Baseline, Network Admin skills)
- 6. Research topic on Network Diagnostic Tools (At least Six tools)

A total of minimum 5 pages and minimum of 750 words and maximum of 8 pages and maximum 1100 words excluding the cover page and references.

For PSLO4:

Using a chart format, describe eight possible threats to a data network (such as hardware, software, files, circuits, internal personnel, physical security, external people, and users). Describe a total of eight possible solutions to these conceivable threats.

Rubrics for Signature Assignments PSLO1:

Sub-competency	Exceeds Expectation	Meets Expectations	Needs Improvement	NA
Readability	 Logically Organized Easy to follow Effective and smooth transitions 	 Some digressions, amb iguities, and irrelevances Difficult to follow with some rereading needed Ineffective transitions 	 No apparent organization Difficult to follow with frequent rereading needed Poor transitions 	No Respo nse
Content	 Central idea well- developed Clarity of purpose 	 Central idea vague or too broad Some sense of purpose throughout the paper 	Central idea and clarity of purpose absent in the paper	No Respo nse
Language	 Sophisticated and correct use of vocabulary Clear and appropriate tone for intended audience 	 Frequent misuse of correct vocabulary Some level of inappropriate tone 	 Unsophisticate d and inappropriate use of vocabulary Inappropriate tone for the audience 	No Respo nse
Format	Professional format	Unorganized format	No format	No Respo nse
Grammar	 Use of complex sentences for effect and impact No punctuation or mechanical 	 Use of compound sentences Several punctua tion and/or mechanical errors 	 Use of simple, choppy sentences Many punctuation and/or mechanical errors 	No Respo nse

	errors			
Citations Proper attribution to avoid plagiarism Correct form (exam ple : APA, MLA, Chicago)	 All factual information of ited Citations and references adhere to a professional style (example: APA, MLA, Chicago) 	eeded • Citations and references inconsistent with a	 No citations for factual information Citations and references do not follow a professional style 	No Respo nse

PSLO 4:

Criterion	Exceeds Expectation	Meets Expectat		NA
		ions	Improvement	
Perform Risk Analysis Perform Inventory Analyze Risks Prioritize Risks	 Correctly identifies current risks Places risks in proper order for funding 	 Identifi es > 80% of the risks Risks are mostly prioritiz ed 	 Unable to identify >50% of the risk Unable to prioritize risks 	No credible re sponse
Create Security Policy	 Use recognize d policy template Establish separate security organization Assign clear responsibilitie s 	 Uses existing IT organiz ation 	 No dedicated security organizati on present Confusing duplicate, or missing responsib ilities 	nse
Recommend Tec hnical Solutions • Recomme nd type and	 Recommend perimeter defense devices Design 	 Use home- based security devices 	 No evidence of dedicated perimeter 	

placemen t of security devices Recomme nd monitorin g system	internal detection systemsUse real-time monitoring system	Monito ring system is not real-time	or internal systems No monitorin g system	
Periodic Review for effectiven ess Ensure complian ce Conduct drills	 Plan is reviewed at least annually User training is conducted every 6 months Drills at least annually 	 Plan is reviewe d betwee n 12-18 months User training betwee n 6-12 moths Drills on adhoc basis 	 No plan for review User training not reinforce d No drills schedule d 	No credible respo nse

Posting of Grades

All students' grade will be posted on the Canvas Grade book, and students can monitor their progress in this course using Canvas Portal. Students can expect to see their grades within two weeks of the closing of class tests, exams, and assignments. Students are expected to visit Canvas course webpage every week multiple times to get any update regarding this course. All updates regarding homework and tests will be posted in "Announcement" tab in Canvas course portal.

Grading Policies

Policies related to grading

- All the assignments must be submitted before the posted deadline in Canvas Course Website unless arrangements are made beforehand.
- Assignments and class tests posted before midterm exam cannot be completed/submitted after the midterm exam.
- Assignments more than **48** hours late are subject to **20%** late penalty.
- Requests for **Incomplete grades**:
 - Incompletes will only be given in emergency or other extreme circumstances. Any request for an incomplete grade in this course must be approved by the course professor prior to April 09, 2022. Where possible, requests should be submitted in

- written form with reasons and must include an address and/or telephone number where you may be contacted throughout the following semester.
- For a request of an incomplete grade to be considered, at least 70% of the total course work (700 points) must be completed.
- Finally, approval of an incomplete grade (*I*) is up to the **department chair** and **college Dean**.

Instructor's Personal Statement

- The instructor reserves the right to modify the course syllabus during the semester for the benefit of the students.
- The instructor reserves the right to supplement materials presented in the text with additional course material that may help the students to understand the topic better.
- The instructor reserves the right to modify grading policy rubrics. Any Change to grading rubrics will be applied to current and possible future assignments.
- The instructor will not accept any course assignment after **May 01, 2021** in spring 2022 semester.

COURSE OUTLINE AND CALENDAR

Complete Course Calendar

The tentative course outline is mentioned below. Each week, there will be class on Tuesday and Thursday.

Week	Dates	Topic	Due
1	June 06-12	Chapter 01; Read the chapter and assigned readings	Syllabus overview
		Chapter 02; Read the chapter and assigned readings	Assignment 1
2	June 13-18	Chapter 03; Read the chapter and assigned readings	Class Test 1
		Chapter 04; Read the chapter and assigned readings	
3	June 19-24	Chapter 05; Read the chapter and assigned readings	Assignment 2 Class Test 2
4	June 25-July 01	Chapter 06; Read the chapter and assigned readings	
		Chapter 07; Read the chapter and assigned readings	
5	July 02-08	Midterm Exam	Midterm Exam
6	July 09-15	Chapter 07; Read the chapter and assigned readings	Class Test 3 Assignment 3
		Chapter 08; Read the chapter and	

Week	Dates	Topic	Due
		assigned readings	
07	July 16-22		
		Chapter 10; Read the chapter and	Class Test 4
		assigned readings	Assignment 4
		Chapter 11; Read the chapter and	
		assigned readings	
			Class Test 5
		Chapter 12; Read the chapter and	
		assigned readings	
			Course Presentation
			due
08	July 23-29	Course Review and Final Exam	Final Exam

Important University Dates

Please visit https://www.tamuct.edu/registrar/academic-calendar.html for important University dates.

TECHNOLOGY REQUIREMENTS AND SUPPORT

Technology Requirements

This course will use the A&M-Central Texas Instructure Canvas learning management system. We strongly recommend the latest versions of Chrome or Firefox browsers. Canvas no longer supports any version of Internet Explorer.

Logon to A&M-Central Texas Canvas [https://tamuct.instructure.com/] or access Canvas through the TAMUCT Online link in myCT [https://tamuct.onecampus.com/]. You will log in through our Microsoft portal.

Username: Your MyCT email address. Password: Your MyCT password

Canvas Support

Use the Canvas Help link, located at the bottom of the left-hand menu, for issues with Canvas. You can select "Chat with Canvas Support," submit a support request through "Report a Problem," or call the Canvas support line: 1-844-757-0953.

For issues related to course content and requirements, contact your instructor.

Online Proctored Testing

A&M-Central Texas uses Proctorio for online identity verification and proctored testing. This service is provided at no direct cost to students. If the course requires identity verification or proctored testing, the technology requirements are: Any computer meeting the minimum computing requirements, plus web camera, speaker, and microphone (or headset). Proctorio

also requires the Chrome web browser with their custom plug in.

Other Technology Support

For log-in problems, students should contact Help Desk Central, 24 hours a day, 7 days a week

Email: helpdesk@tamu.edu Phone: (254) 519-5466

Web Chat: [http://hdc.tamu.edu]

Please let the support technician know you are an A&M-Central Texas student.

UNIVERSITY RESOURCES, PROCEDURES, AND GUIDELINES

Drop Policy

If you discover that you need to drop this class, you must complete the <u>Drop Request</u> Dynamic Form through Warrior Web.

[https://dynamicforms.ngwebsolutions.com/casAuthentication.ashx?InstID=eaed95b9-f2be-45f3-a37d-

46928168 bc 10 & target Url = https % 3A% 2F% 2F dynamic forms. ngwebsolutions. com% 2F Submit% 2F Form% 2F Start% 2F 53b 8369 e-0502-4f 36-be 43-f 02a 4202f 612].

Faculty cannot drop students; this is always the responsibility of the student. The Registrar's Office will provide a deadline on the Academic Calendar for which the form must be completed. Once you submit the completed form to the Registrar's Office, you must go into Warrior Web and confirm that you are no longer enrolled. If you still show as enrolled, FOLLOW-UP with the Registrar's Office immediately. You are to attend class until the procedure is complete to avoid penalty for absence. Should you miss the drop deadline or fail to follow the procedure, you will receive an F in the course, which may affect your financial aid and/or VA educational benefits.

Academic Integrity

Texas A&M University-Central Texas values the integrity of the academic enterprise and strives for the highest standards of academic conduct. A&M-Central Texas expects its students, faculty, and staff to support the adherence to high standards of personal and scholarly conduct to preserve the honor and integrity of the creative community. Any deviation by students from this expectation may result in a failing grade for the assignment and potentially a failing grade for the course. All academic misconduct concerns will be referred to the Office of Student Conduct. When in doubt on collaboration, citation, or any issue, please contact your instructor before taking a course of action.

For more <u>information regarding the Student Conduct process</u>, [https://www.tamuct.edu/student-affairs/student-conduct.html].

If you know of potential honor violations by other students, you may <u>submit a report</u>, [https://cm.maxient.com/reportingform.php?TAMUCentralTexas&layout_id=0].

Academic Accommodations

At Texas A&M University-Central Texas, we value an inclusive learning environment where

every student has an equal chance to succeed and has the right to a barrier-free education. The Warrior Center for Student Success, Equity and Inclusion is responsible for ensuring that students with a disability receive equal access to the university's programs, services and activities. If you believe you have a disability requiring reasonable accommodations, please contact the Office of Access and Inclusion, WH-212; or call (254) 501-5836. Any information you provide is private and confidential and will be treated as such.

For more information, please visit our <u>Access & Inclusion</u> Canvas page (log-in required) [https://tamuct.instructure.com/courses/717]

Important information for Pregnant and/or Parenting Students

Texas A&M University-Central Texas supports students who are pregnant and/or parenting. In accordance with requirements of Title IX and related guidance from US Department of Education's Office of Civil Rights, the Dean of Student Affairs' Office can assist students who are pregnant and/or parenting in seeking accommodations related to pregnancy and/or parenting. Students should seek out assistance as early in the pregnancy as possible. For more information, please visit Student Affairs [https://www.tamuct.edu/student-affairs/pregnant-and-parenting-students.html]. Students may also contact the institution's Title IX Coordinator. If you would like to read more about these requirements and guidelines online, please visit the website [http://www2.ed.gov/about/offices/list/ocr/docs/pregnancy.pdf].

Title IX of the Education Amendments Act of 1972 prohibits discrimination on the basis of sex and gender—including pregnancy, parenting, and all related conditions. A&M-Central Texas is able to provide flexible and individualized reasonable accommodation to pregnant and parenting students. All pregnant and parenting students should contact the Associate Dean in the Division of Student Affairs at (254) 501-5909 to seek out assistance. Students may also contact the University's Title IX Coordinator.

Tutoring

Tutoring is available to all A&M-Central Texas students, both virtually and in-person. Student success coaching is available online upon request.

If you have a question, are interested in becoming a tutor, or in need of success coaching contact the Warrior Center for Student Success, Equity and Inclusion at (254) 501-5836, visit the Warrior Center at 212 Warrior Hall, or by emailing WarriorCenter@tamuct.edu.

To schedule tutoring sessions and view tutor availability, please visit <u>Tutor Matching</u> <u>Services</u> [https://tutormatchingservice.com/TAMUCT] or visit the Tutoring Center in 111 Warrior Hall.

Chat live with a remote tutor 24/7 for almost any subject from on your computer! Tutor.com is an online tutoring platform that enables A&M-Central Texas students to log in and receive online tutoring support at no additional cost. This tool provides tutoring in over 40 subject areas except writing support. Access Tutor.com through Canvas.

University Writing Center

University Writing Center: Located in Warrior Hall 416, the University Writing Center (UWC) at Texas A&M University—Central Texas (A&M—Central Texas) is a free service open to all A&M—Central Texas students. For the Spring 2022 semester, the hours of operation are from 10:00 a.m.-5:00 p.m. Monday thru Thursday in Warrior Hall 416 (with online tutoring available every hour as well) with satellite hours available online only Monday thru Thursday from 6:00-9:00 p.m. and Saturday 12:00-3:00 p.m.

Tutors are prepared to help writers of all levels and abilities at any stage of the writing process. While tutors will not write, edit, or grade papers, they will assist students in developing more effective composing practices. By providing a practice audience for students' ideas and writing, our tutors highlight the ways in which they read and interpret students' texts, offering guidance and support throughout the various stages of the writing process. In addition, students may work independently in the UWC by checking out a laptop that runs the Microsoft Office suite and connects to WIFI, or by consulting our resources on writing, including all of the relevant style guides. Whether you need help brainstorming ideas, organizing an essay, proofreading, understanding proper citation practices, or just want a quiet place to work, the UWC is here to help!

Students may arrange a one-to-one session with a trained and experienced writing tutor by making an appointment via WCOnline [https://tamuct.mywconline.com/]. In addition, you can email Dr. Bruce Bowles Jr. at bruce.bowles@tamuct.edu if you have any questions about the UWC, need any assistance with scheduling, or would like to schedule a recurring appointment with your favorite tutor by making an appointment via WCOnline [https://tamuct.mywconline.com/]. In addition, you can email Dr. Bruce Bowles Jr. at bruce.bowles@tamuct.edu if you have any questions about the UWC, need any assistance with scheduling, or would like to schedule a recurring appointment with your favorite tutor.

University Library

The University Library provides many services in support of research across campus and at a distance. We offer over 200 electronic databases containing approximately 400,000 eBooks and 82,000 journals, in addition to the 96,000 items in our print collection, which can be mailed to students who live more than 50 miles from campus. Research guides for each subject taught at A&M-Central Texas are available through our website to help students navigate these resources. On campus, the library offers technology including cameras, laptops, microphones, webcams, and digital sound recorders.

Research assistance from a librarian is also available 24 hours a day through our online chat service, and at the reference desk when the library is open. Research sessions can be scheduled for more comprehensive assistance, and may take place virtually through WebEx, Microsoft Teams or in-person at the library. Schedule an appointment [https://tamuct.libcal.com/appointments/?g=6956]. Assistance may cover many topics, including how to find articles in peer-reviewed journals, how to cite resources, and how to piece together research for written assignments.

Our 27,000-square-foot facility on the A&M-Central Texas main campus includes student lounges, private study rooms, group work spaces, computer labs, family areas suitable for all ages, and many other features. Services such as interlibrary loan, TexShare, binding, and laminating are available. The library frequently offers workshops, tours, readings, and other events. For more information, please visit our <u>Library website</u> [http://tamuct.libguides.com/index].

OPTIONAL POLICY STATEMENTS

A Note about Sexual Violence at A&M-Central Texas

Sexual violence is a serious safety, social justice, and public health issue. The university offers support for anyone struggling with these issues. University faculty are mandated reporters, so if someone discloses that they were sexually assaulted (or a victim of Domestic/Dating Violence or Stalking) while a student at TAMUCT, faculty members are required to inform the Title IX Office. If you want to discuss any of these issues confidentially, you can do so through Student Wellness and Counseling (254-501-5955) located on the second floor of Warrior Hall (207L).

Sexual violence can occur on our campus because predators often feel emboldened, and victims often feel silenced or shamed. It is incumbent on ALL of us to find ways to actively create environments that tell predators we don't agree with their behaviors and tell survivors we will support them. Your actions matter. Don't be a bystander; be an agent of change. For additional information on campus policy and resources visit the <u>Title IX webpage</u> [https://www.tamuct.edu/compliance/titleix.html].

Behavioral Intervention

Texas A&M University-Central Texas cares about the safety, health, and well-being of its students, faculty, staff, and community. If you are aware of individuals for whom you have a concern, please make a referral to the Behavioral Intervention Team. Referring your concern shows you care. You can complete the <u>referral</u> online [https://cm.maxient.com/reportingform.php?TAMUCentralTexas&layout_id=2].

Anonymous referrals are accepted. Please see the <u>Behavioral Intervention Team</u> website for more information [https://www.tamuct.edu/bit]. If a person's behavior poses an imminent threat to you or another, contact 911 or A&M-Central Texas University Police at 254-501-5805.