

**CIS 3347-110, CRN 81069, Data Communications and Infrastructure
Fall 2021
Texas A&M University-Central Texas**

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Office Hours: TR 3-6 pm virtual (emails, calls, or video desktop sharing) (or by appointment)

Course Dates, Modality, and Location

Aug 23 – Dec 10. This is a completely online course - there will be NO “official” face-to-face classroom time. This course uses the A&M-Central Texas Canvas Learning Management System [<https://tamuct.instructure.com>]. I use Canvas to post course content, assignments, quizzes, exams, and to communicate any other announcements with the class. So please check Canvas regularly (on a daily basis) for updates.

Student-instructor interaction:

You may use the Canvas “inbox” feature or email me with your questions anytime as you would by attending the class and coming into my office. Your questions will be answered within 24 hours on weekdays and within 48 hours on weekends and holidays.

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

Warrior Shield is an emergency notification service that gives Texas A&M University-Central Texas the ability to communicate health and safety emergency information quickly via email, text message, and social media. All students are automatically enrolled in Warrior Shield through their myCT email account.

Connect to Warrior Shield by [911Cellular](https://portal.publicsafetycloud.net/Account/Login) [<https://portal.publicsafetycloud.net/Account/Login>] to change where you receive your alerts or to opt out. By staying enrolled in Warrior Shield, university officials can quickly pass on safety-related information, regardless of your location.

Fall 2021 Return to Campus Plan. For the most recent campus information regarding COVID-19 see the Texas A&M University-Central Texas [Fall 2021 Return to Campus Plan](https://www.tamuct.edu/covid19/) [<https://www.tamuct.edu/covid19/>]

COURSE INFORMATION

Course Overview and description:

A study of telecommunications architecture, industry standards and communications protocols, the placement of networking devices and components, transmission media selection, logical and physical topologies, voice and data transmission, and structured cabling for local area networks (LANs) and wide area networks (WANs). Application exercises will include evaluating alternatives available in hardware, software, and transmission facilities, design integration,

selection and implementation of communications and networking solutions. In addition, students will explore the current and future impact and directions of these technologies. Students will complete an architecture design project that will include required components and address services as specified in an industry specific Request for Proposal (RFP).

Student Learning Outcomes:

Students taking this course will be able to:

1. Illustrate network behavior and principles employed in an organization and the underlying operation of the communication networks.
2. Demonstrate the details of data and signals in Computer Networking and analyze the correct operation of various protocols
3. Understand the basic principles of Internet protocols and various internet services.

Required Reading and Textbook(s):

Business Data Communications and Networking, 13th Edition

Authors: FitzGerald, Dennis, Durcikova

ISBN: 8-1-119-36883-0 Publisher: Wiley

Supplemental and Optional Reading(s)

Additional required readings and optional readings will be posted on Canvas.

COURSE REQUIREMENTS

Exams

There will be three exams (two mid-terms and one final). Each exam is worth 100 points. Exams can be conducted either paper-based or on canvas. Exams will be based on the textbook, readings, and class discussions. It is assumed that you will read the assigned chapters and readings in advance. Make up exams are not typically given. The only acceptable excuses for missing an exam are circumstances clearly outside your control, such as illness, death in family, etc. If you miss an exam, notify me as soon as possible. I may require documentation of the circumstances.

Lab work

Labs are designed for students to have hands on experiences on the topics covered in this course. Instructions on what to submit for each lab will be posted on Canvas. You will be asked to prepare a lab report with your observations. All lab reports must be submitted before the end of the day (11:59 PM) on the due date mentioned in the course schedule. Late submissions will not be accepted for full points and will attract 10% deduction for each day that it is late. Each lab assignment is worth 30 points.

Assignments

There will be five assignments during the semester (30 points each). Assignments stress critical thinking by applying concepts learned in this course. Occasionally, some individual outside research will also be required. Assignments must be submitted before the end of the day (11:59 PM) on the due date mentioned in the course schedule. Late submissions will not be accepted for full points and will attract 10% deduction for each day that it is late.

Quizzes

There will be ten quizzes (true/false) that are designed to test the general understanding of the topics covered in the course. The quizzes can be conducted in-class either paper-based or on canvas. Late submissions will not be accepted. Each quiz is worth 20 points.

Project Presentation

Each student will need to present a topic on computer networks and data communications. The presentation topics, presentation schedule, and grading rubric (used to assess the presentations) will be announced in class and on Canvas. Presentation is worth 100 points.

Threaded Discussions (TD)

The purpose of the threaded discussions is to learn from personal knowledge and/or experiences of each other. Active participation in the threaded discussion is an important component of this course. It is expected that you enrich the course through relevant discussions and contribution of personal knowledge and experience. You should read over comments made by others and respond to the comments rather than just repeating what was said. I encourage you to add value to the discussion by bringing a new perspective to what was said rather than simply repeating the points. Examples of acceptable discussion material are (1) your own interpretations of issues discussed in the readings, (2) relating conceptual material from the readings to real-world examples, (3) drawing parallels with or integrating ideas covered in previous classes, (4) critiquing a classmate's analysis, (5) applying outside readings to the discussion at hand, and (6) demonstrating that you have carefully read the material and thought about it. Evaluation of your participation will be based on substantive contribution to the class or group learning experience, and not merely on how many times you entered your comments.

In a typical threaded discussion for a unit, I will pose a topic for discussion or a series of topics and you as the student, can respond to the topics and/or respond to the other students' responses. You enter the threaded discussion by clicking on the respond button in the thread page.

Your participation will be evaluated as follows:

Rubric for Online Content Assessment

Points	Skills
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- 9-10 Demonstrates excellence in grasping key concepts; critiques the work of others; provides ample evidence of support for opinions; readily offers new interpretations of discussion material.
- 7-8 Shows evidence of understanding most of the major concepts; is able to agree or disagree when prompted; is skilled in basic level of support for opinions; offers an occasional divergent viewpoint.
- 5-6 Has mostly shallow grasp of the material; rarely takes a stand on issues; offers inadequate levels of support.
- 1-4 Shows no significant understanding of material.

Rubric for Assessing Online Participation

Points	Skills
9-10	Contributions are prompt, timely, relevant, self-initiated; remarks are posted freely on all assignments throughout the course; there is no attempt to dominate conversation.
7-8	Student generally keeps up with the discussion; needs an occasional prompting to contribute; might participate in some discussions more than others.
5-6	Participation is spotty; picks and chooses topics to get involved in; offers short, perfunctory postings when prompted; takes limited initiative.
1-4	Student rarely participates freely; makes short, irrelevant remarks.

It is important to participate early (rather than just the last hours) and very often to see everybody's contributions in order to be able to add value to the discussion. In your discussions and especially in the open ended questions, you need to (1) make inferences, (2) relate new knowledge to prior knowledge and experience, and (3) interpret content through the analysis, synthesis, and evaluation of others' understanding. Please note: Late threaded discussions will NOT be accepted. Each individual thread discussion is worth 15 points.

The highest grade for online participation portion of the threaded discussions is achieved if you post at least three times during the discussion period and add value to discussion each time.

Grading Criteria:

Your semester grade will be based on the following criteria:

Course Requirement	Points	Weightage
Two Mid-Term Exams (100 points each)	200	20%
Final Exam	100	10%
Five Labs (30 points each)	150	15%
Five Assignments (30 points each)	150	15%
Ten Quizzes (20 points each)	200	20%
Project Presentation	100	10%
Six Threaded Discussions (15 points each)	90	9%
Introduction Task	10	1%
Total	1000	100%

Final letter grade distribution will be as per the following scale:

Letter Grade	Points Range
A	900 - 1000
B	800 - 899
C	700 - 799
D	600 - 699
F	Below 599

Posting of Grades

All students' grade will be posted on the Canvas Grade book, and students can monitor their progress on Canvas grade book. 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 regularly to get any update regarding this course.

COURSE OUTLINE AND CALENDAR

Course Schedule* ** (* This schedule provides a general plan. Deviations may be necessary)
 (** Readings for each week will be posted on Canvas)

Week	Date	Readings	Due
1	8/24	Chapter 1 – Introduction to Data Communications	Introduction Task
	8/26	Chapter 1 – Continued	Chapter 1 Quiz
2	8/31	Chapter 2 – Application Layer	Lab 1
	9/02	Chapter 2 – Continued	Chapter 2 Quiz, TD 1
3	9/07	Chapter 3 – Physical Layer	Assignment 1
	9/09	Chapter 3 - Continued	Chapter 3 Quiz
4	9/14	Chapter 4 - Data Link Layer	Lab 2
	9/16	Chapter 4 – Continued	Chapter 4 Quiz, TD 2
5	9/21	Exam 1 Review	
	9/23	Mid-term Exam 1	Exam 1
6	9/28	Chapter 5 - Network & Transport Layers	Assignment 2
	9/30	Chapter 5 – Continued	Chapter 5 Quiz, TD 3
7	10/05	Chapter 6 – Network Design	Lab 3
	10/07	Chapter 6 – Continued	Chapter 6 Quiz
8	10/12	Chapter 7 - Wired and Wireless Local Area Networks	Assignment 3
	10/14	Chapter 7 – Continued	Chapter 7 Quiz, TD 4
9	10/19	Chapter 8 - Backbone Networks	Lab 4
	10/21	Chapter 8 – Continued	Chapter 8 Quiz
10	10/26	Exam 2 Review	
	10/28	Exam 2	Exam 2
11	11/02	Chapter 9 – Wide Area Networks	Assignment 4
	11/04	Chapter 9 - Continued	Chapter 9 Quiz, TD 5
12	11/09	Chapter 10 - The Internet	Lab 5, Chapter 10 Quiz
	11/11	Veteran’s Day Holiday	
13	11/16	Chapter 11 – Network Security	Assignment 5
	11/18	Chapter 11 – Continued	TD 6
14	11/23	Chapter 12 - Network Management	
	11/25	Thanksgiving Holiday	
15	11/30	Project Presentations	Project PPT, recording
	12/02	Project Presentations, Final Exam Review	
16	12/07	Final Exam	Final Exam

Important University Dates:

August 23, 2021 Add, Drop, and Late Registration Begins for 16- and First 8-week Classes
 \$25 Fee assessed for late registrants

August 23, 2021 Classes Begin for Fall Semester

August 25, 2021	Deadline for Add, Drop, and Late Registration for 16- and First 8-Week Classes
August 30, 2021	Deadline to Drop First 8-week Classes with No Record
September 6, 2021	Labor Day (University open and classes will be held)
September 7, 2021	Deadline to drop 16-week Classes with No Record
October 4, 2021	Deadline for Teacher Education Program Applications
October 1, 2021	Deadline to Drop First 8-week Classes with a Quit (Q) or Withdraw (W)
October 15, 2021	Deadline for Clinical Teaching/Practicum Applications
October 15, 2021	Classes End for First 8-week Session
October 15, 2021	Deadline to Withdraw from University for First 8-Week Classes (WF)
October 18, 2021	Add, Drop, and Late Registration Begins for Second 8-Week Classes \$25 Fee assessed for late registrants
October 18, 2021	Classes Begin for Second 8-Week Session
October 18, 2021	Class Schedule Published for Spring Semester
October 19, 2021	Deadline for Faculty Submission of First 8-Week Class Final Grades (due by 3pm)
October 20, 2021	Deadline for Add, Drop, and Late Registration for Second 8-Week Classes
October 25, 2021	Deadline to Drop Second 8-Week Classes with No Record
October 19, 2021	Deadline for Graduation Application for Fall Ceremony Participation
November 1, 2021	Deadline for GRE/GMAT Scores to Graduate School Office
November 1, 2021	Registration Opens for Spring Semester
November 5, 2021	Deadline to Drop 16-Week Classes with a Quit (Q) or Withdraw (W)
November 11, 2021	Veteran's Day (University Closed)
November 20, 2021	Deadline for Final Committee-Edited Theses Fall Semester with Committee Approval Signatures to Graduate School Office
November 25-26, 2021	Thanksgiving (University Closed)
November 29, 2021	Deadline to Drop Second 8-Week Classes with a Quit (Q) or Withdraw (W)
December 10, 2021	Deadline to Withdraw from University for 16- and Second 8-Week Classes
December 10, 2021	Fall Semester Ends
December 10, 2021	Deadline for Applications for Tuition Rebate for Fall Graduation (5pm)
December 10, 2021	Deadline for Fall Degree Conferral Applications to the Registrar's Office \$20 Late Application Fee
December 10, 2021	Fall Commencement Ceremony Bell County Expo 7 pm

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): [<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 [Drop Request](#) Dynamic Form through Warrior Web.

[<https://dynamicforms.ngwebsolutions.com/casAuthentication.ashx?InstID=eaed95b9-f2be-45f3-a37d-46928168bc10&targetUrl=https%3A%2F%2Fdynamicforms.ngwebsolutions.com%2Fsubmit%2FForm%2Fstart%2F53b8369e-0502-4f36-be43-f02a4202f612>].

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 [information regarding the Student Conduct process](https://www.tamuct.edu/student-affairs/student-conduct.html),
[https://www.tamuct.edu/student-affairs/student-conduct.html].

If you know of potential honor violations by other students, you may [submit a report](https://cm.maxient.com/reportingform.php?TAMUCentralTexas&layout_id=0),
[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 Office of Access 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 [Access & Inclusion](https://tamuct.instructure.com/courses/717) 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) [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](http://www2.ed.gov/about/offices/list/ocr/docs/pregnancy.pdf) 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, on a remote online basis. Visit the Academic Support Community in Canvas to view schedules and contact information. Subjects tutored on campus include Accounting, Advanced Math, Biology, Finance, Statistics, Mathematics, and Study Skills. Student success coaching is available online upon request.

If you have a question regarding tutor schedules, need to schedule a tutoring session, are interested in becoming a tutor, success coaching, or have any other question, contact Academic Support Programs at (254) 501-5836, visit the Office of Student Success at 212F Warrior Hall, or by emailing studentsuccess@tamuct.edu.

Chat live with a 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 Fall 2021 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 WOnline at <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 WOnline at <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. 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 [Library website](http://tamuct.libguides.com/index) [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 [Title IX webpage](https://www.tamuct.edu/compliance/titleix.html) [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 [referral](#) online [https://cm.maxient.com/reportingform.php?TAMUCentralTexas&layout_id=2].

Anonymous referrals are accepted. Please see the [Behavioral Intervention Team](#) 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 254-501-5800.

Copyright Notice

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