

CIS 5372-125, CRN 10393, Network and Systems Security

Online

2nd 8 weeks of Spring 2023

Texas A&M University-Central Texas

COURSE DATES, MODALITY, AND LOCATION

This graduate course meets online, with all materials made available online using the TAMUCT Canvas Learning Management System: [<https://tamuct.instructure.com>]. All announcements 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 updates regarding this course. They can also install the Canvas student app on their phone.

INSTRUCTOR AND CONTACT INFORMATION

Instructor: Abhijit K Nag, Ph.D.

Office: FH 323I

Phone: (254) 519- 5933 (COBA office)

Email: Canvas Inbox. If Canvas is not available, email: aknag@tamuct.edu

Office Hours:

I am also available for students on an appointment basis. Send me an email (aknag@tamuct.edu) to schedule an appointment to meet.

Student-instructor interaction:

Students are encouraged to send all course-related correspondence to Canvas email messages. Students can meet me by appointment to discuss any course-related issues.

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](http://www.safezoneapp.com) website [www.safezoneapp.com].

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

1. Download the SafeZone App from your phone store using the link below:
 - o [iPhone/iPad](https://apps.apple.com/app/safezone/id533054756): [<https://apps.apple.com/app/safezone/id533054756>]

- [Android Phone / Tablet](https://play.google.com/store/apps/details?id=com.criticalarc.safezoneapp)
[https://play.google.com/store/apps/details?id=com.criticalarc.safezoneapp]
- 2. Launch the app and enter your myCT email address (e.g. {name}@tamuct.edu)
- 3. Complete your profile and accept the terms of service

For updates on COVID information, please monitor the University [website](https://www.tamuct.edu/covid19/)
[https://www.tamuct.edu/covid19/]

COURSE INFORMATION

Course Overview and description:

The course provides students with the framework and procedures for securing computer systems and data networks. Topics may include the methodologies for the design of security systems, establishing security protocols, and the identification of best practices in administration, testing, and response protocols for secure communications systems.

Pre-requisites: CIS 5370 or approval of the department Chair.

Course Objective:

Student Learning Outcomes:

Students taking this course will be able to

CLO1.

Understand the basic concepts of various encryption techniques and their applications,

CLO2:

Apply multiple forms of authentication and robust password-based protocols,

CLO3:

Analyze various connection protocols used in different security applications

CLO4:

Analyze various network applications and how to ensure the security of those applications.

Competency Goals Statements (certification or standards): None

Required Reading and Textbook(s):

Network Security Essentials: Applications and Standards: 6th Edition.

Author: William Stallings. **ISBN:** 978-0134527338.

Note: 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. However, students need to purchase a subscription for the lab portal from the University Bookstore.

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

COURSE REQUIREMENTS

Course Requirements:

Students are required to complete one midterm exam, one final exam/class project, multiple

homework assignments/lab assignments, four quizzes and two discussion questions. The topic of all quizzes and exams will be declared on the Canvas portal. Active participation in a weekly manner is mandatory for this course.

In this course, we will be using the ThriveDX lab accessed through your canvas portal. Students need to purchase the subscription from our bookstore. Students are expected to complete this step by the **end of the first week** of this course. Faculty will provide a tutorial to use this lab environment.

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 exam question formats will be discussed in the course later.

Quiz

There will be five quizzes. Each quiz will contain 50 points, and it will be conducted using Canvas Quiz section. There will be MCQ and True/False questions as part of the quiz.

Assignments

five assignments (homework and lab assignments in total) will be given to the students. The due dates of these assignments will be posted in canvas. Each assignment will be worth **60** points.

Discussions

Discussion questions (two of them) will be counted toward class participation marks. As this course focuses on hands-on exercises in different capacities, it is required to **read all the required chapters every week during this semester**. Total discussion questions is worth 50 points.

Grading Criteria Rubric and Conversion

The distribution of points for various student activities and the grading scheme are mentioned below:

Student Activity	Quantity	Points	Total
Assignments/Labs	5	60	300
Quizzes	5	50	250
Midterm Exam	1	200	200
Final Exam/ Project	1	200	200
Discussions	2	25	50
Total			1000

Point Range	Letter Grade
1000-900	A

899-800	B
799-700	C
699-600	D
599-0	F

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 **eight days** of the closing of class tests, exams, and assignments. Students are expected to visit the Canvas course webpage regularly (multiple times a week) to get any updates regarding this course.

COURSE OUTLINE AND CALENDAR

Complete Course Calendar

The announcement dates may change depending on the pace of the course, lab assignments and overall student learning. All assignments, class tests, midterm and final exam due dates will be announced in the canvas. Please visit your canvas portal multiple times a week.

Week	Date	Topic	Due
1	Week 1	Syllabus and Part I: Cryptography	Discussion 1
2	Week 2	Part I: Cryptography	Assignment 1, Quiz 1
3	Week 3	Part I: Cryptography	Quiz 2
4	Week 4	Part II: Authentication	Assignment 2 and Midterm Exam (due April 15)
5	Week 5	Part II: Authentication	Discussion 2, Assignment 3, Quiz 3
6	Week 6	Part III: Connection Protocols	Assignment 4, Quiz 4
7	Week 7	Part III: Connection Protocols	Assignment 5, Quiz 5
8	Week 8	Final Exam Overview	Final Exam (due May 11)

INSTRUCTOR POLICIES

Policies related to grading

- All the assignments must be submitted within the posted deadline in Canvas Course Website unless arrangements are made beforehand (at least **48 hours before** the deadline and the students need to send an email explaining the situation and providing necessary documentation).
- For homework assignments, it is required to zip all the files prior to submission to Canvas (except any docx file). The name convention for the file: ***firstname_lastname_CIS5372-AssignmentNumber.zip***.
- Assignments and class tests posted before midterm exam **CANNOT** be completed/submitted after the midterm exam.
- Assignments more than **36** hours late are subject to **20%** late penalty.

- Requests for **Incomplete grades**:
 - Incompletes will only be given in emergencies or other extreme circumstances. Any request for an incomplete grade in this course must be approved by the course professor prior to **April 28, 2023**. 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.
 - A request for an incomplete grade to be considered, at least **70%** of the total coursework (**700 points**) must be completed for this course.
 - Finally, approval of an incomplete grade (*I*) is up to the **department chair** and **college Dean**, not only to the course instructor.

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 pending course assignments after **May 04, 2023** in Spring 2023 semester.

Important University Dates:

Please visit the following link to access the 2022-2023 academic calendar:

<https://www.tamuct.edu/registrar/academic-calendar.html>

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>].

Username: Your MyCT username (xx123 or everything before the "@" in your MyCT e-mail 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.

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

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 [Access & Inclusion](https://tamuct.instructure.com/courses/717) Canvas page (log-in required) [https://tamuct.instructure.com/courses/717]

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 referral](https://cm.maxient.com/reportingform.php?TAMUCentralTexas&layout_id=0), [https://cm.maxient.com/reportingform.php?TAMUCentralTexas&layout_id=0].

Drop Policy

If you discover that you need to drop this class, you must complete the [Drop Request](https://federation.ngwebsolutions.com/sp/startSSO.ping?PartnerIdpld=https://eis-prod.ec.tamuct.edu:443/samlSSO&SpSessionAuthnAdapterId=tamuctDF&TargetResource=https%3a%2f%2fdynamicforms.ngwebsolutions.com%2fSubmit%2fStart%2f53b8369e-0502-4f36-be43-f02a4202f612) Dynamic Form through Warrior Web.

[https://federation.ngwebsolutions.com/sp/startSSO.ping?PartnerIdpld=https://eis-prod.ec.tamuct.edu:443/samlSSO&SpSessionAuthnAdapterId=tamuctDF&TargetResource=https%3a%2f%2fdynamicforms.ngwebsolutions.com%2fSubmit%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.

Important information for Pregnant and/or Parenting Students

Texas A&M University-Central Texas supports students who are pregnant, experiencing pregnancy-related conditions, 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, 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 [Tutor Matching Services](https://tutormatchingservice.com/TAMUCT) [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 Library & Archives

The University Library & Archives provides many services in support of research across campus and at a distance. We offer over 350 electronic databases containing approximately 631,525 eBooks and 75,149 journals, in addition to the 97,443 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 here](https://tamuct.libcal.com/appointments) [https://tamuct.libcal.com/appointments]. 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](https://tamuct.libguides.com/index) [https://tamuct.libguides.com/index]

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. 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](https://tamuct.mywconline.com/) [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.

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](https://cm.maxient.com/reportingform.php?TAMUCentralTexas&layout_id=2) online

[https://cm.maxient.com/reportingform.php?TAMUCentralTexas&layout_id=2].

Anonymous referrals are accepted. Please see the [Behavioral Intervention Team](https://www.tamuct.edu/bit) 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.
