Security and Risk Management, Spring 2023

10396 - CIS 4341 – 110, 9:30 am - 10:45 am MW, Texas A&M University-Central Texas

INSTRUCTOR AND CONTACT INFORMATION:

Instructor: Dr. Deepti Gupta

Email: d.gupta@tamuct.edu (Preferred method of communication.)

Office Hours: Monday 11:00 am – 12:00 pm, meeting online based on emails, Location: 323N

This course is a hybrid course and uses the TAMUCT Canvas Learning Management System: https://tamuct.instructure.com,

Here is full information:

Date	Monday	Wednesday
18th Jan	-	In person
23rd, 25th Jan	In person	In person
30th Jan, 1st Feb	Online	In person
6th, 8th Feb	Online	In person
13th, 15th Feb	Online	In person
20th, 22nd Feb	Online	In person
27th Feb, 1st Mar	Online	In person
6th, 8th Mar	Online	In person
20th, 22nd Mar	Online	In person
27th, 29th Mar	Mid-term Exam - Online	In person
3rd, 5th April	In person	In person
10th, 12th April	In person	In person
17th, 19th April	In person	In person
24th, 26th April	In person	In person
1st, 3rd May	In person	In person

Student-instructor interaction:

Students are encouraged to send all course-related correspondence to Canvas email message.

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*:*

1. Download the SafeZone App from your phone store using the link below:
     1. iPhone/iPad: [https://apps.apple.com/app/safezone/id533054756]
     2. Android Phone / Tablet
2. [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. **For updates on COVID information**, please monitor the University website[https://www.tamuct.edu/covid19/]

COURSE INFORMATION

Course Overview and Description

Examine the fundamental principles and topics of Information Technology Security and Risk Management at the organizational level. Learn critical security principles and best practices to plan, develop and perform security tasks. Special emphasis on hardware, software, processes, communications, applications, and policies and procedures with respect to organizational IT Security and Risk Management.

Course Objective or Goal Student Learning Outcomes

A student successfully completing this course will be able to:

1. Describe the fundamental principles of information technology security.
   2. Explain the concepts of threat, evaluation of assets, information assets, physical, operational, and information security and how they are related.
   3. Recognize the need for the careful design of a secure organizational information infrastructure.
   4. Identify both technical and administrative mitigation approaches.
   5. Demonstrate an understanding of security technologies.
   6. Discuss the need for a comprehensive security model and its implications for the security manager or Chief Security Officer (CSO).
   7. Explain basic cryptography, its implementation considerations, and key management.
   8. Determine appropriate strategies to assure confidentiality, integrity, and availability of information.

Skill Outcomes:

1. Perform risk analysis and risk management.
   2. Create and maintain a comprehensive security model.
   3. Design and guide the development of an organization's security policy.
   4. Apply risk management techniques to manage risk, reduce vulnerabilities, threats, and apply appropriate safeguards/controls.

Required Reading and Textbook(s)

Book Title: Principles of Information Security, 7th Edition **Author:** Michael E. Whitman, Herbert J. Mattord

ISBN: 9780357506448
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, software demonstration, PowerPoint presentations, etc.

COURSE REQUIREMENTS

Course Requirements includes point values for each, not by percentage.

Reading Assignments: All assigned chapters will be used as a basis for canvas course contents. Students are expected to study the required chapters and go through review questions after each chapter every week. Students are required to check Announcement page in Canvas on a regular basis to get any updates regarding the course assignments and due dates.

Students are required to complete one midterm exam, one final exam, assignments, project and quizzes. You will receive one assignment each week, and quiz within two weeks.

Exams: There will be one (1) Midterm and one (1) Final exam. The Midterm Exam will cover Chapters 1-6 and will be worth 200 points, and the Final Exam will cover chapters 7-12 and worth 200 points. The Final Exam is NOT comprehensive for this course. Only those chapters covered after the Midterm Exam will be considered for the Final Exam.

Term Project

There will be one (1) Final Term Project worth 200 points. The complete project requirements will be posted in Canvas. This project is related to the case study, where you will design an infrastructure. You will be given a scenario about malicious activity on a fictitious company's network.

The final term project's objectives are:

- To practice the formal procedure of system/network security analysis and planning.
- To examine the vulnerability and security needs of a private organization.
- To devise strategies to overcome potential malicious attacks, threats, and risks

The Term Project is a four to six (4-6) page paper in which you:

- Analyze five (5) or more specific potential malicious attacks or threats that could be carried out against the network and organization.
- Explain in detail the potential impact of the five (5) or more selected malicious attacks.
- Propose at least nine (9) – 3 of each type of security controls (administrative, logical/technical, and physical) you would consider implementing to protect against the selected potential malicious attacks.
- Analyze three (3) or more potential risks for data loss and data theft that may exist in the documented network and applications.
- Explain in detail the potential impact of the three (3) or more selected risks for data loss and data theft.
- Propose at least three (3) – 1 of each type of security controls (administrative, logical/technical, and physical) that you would consider implementing to protect against the selected risks for data loss and data theft.
- List and provide a product overview of only two (2) alternatives for each logical/technical security control for both data loss/theft and malicious attacks. Include web links to the products and why those products should be considered.

Grading Criteria Rubric and Conversion

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

Required Activity	Quantity	Points	Total
Quizzes	4	40	80

Assignments	6	60	120
Midterm Exam	1	100	100
Final Exam	1	100	100
Final Term Project	1	100	100
Total			500

Point Range	Letter Grade
500-450	A
449-400	B
399-350	C
349-300	D
299-0	F

Posting of Grades

Grades will be posted to the Canvas grade book as assignments are graded. This will typically be done once all students have submitted the assignment.

Grading Policies

All assignments must be submitted before the posted deadline. No late assignments will be accepted.

COURSE OUTLINE AND CALENDAR

Week	Learning Materials	Deliverables
1	Syllabus	• Introduction Post • Syllabus Acknowledgement
2	Module 1: Introduction to Information Security	Assignment 1
3	Module 2: The Need for Information Security	Assignment 2
4	Module 3: Information Security Management	Assignment 3
5	Module 4: Risk Management	Quiz-1
6	Module 5: Incident Response and Contingency Planning	Assignment 4
7	Module 6: Legal, Ethical, and Professional Issues in Information Security	Assignment 5
8	Review For Midterm Exam (Chapters 1-6)	Midterm Exam
9	Module 7: Security and Personnel	Term Project Status Update-Phase-1

10	Module 8: *Security Technology*: Access Controls, Firewalls, and VPNs	Assignment 6
11	Module 9: *Security Technology*: Intrusion Detection and Prevention Systems and Other Security Tools	Assignment 7
12	Module 10: Cryptography	Quiz-2
13	Module 11: Implementing Information Security	Assignment 8
14	Module 12: Information Security Maintenance	Term Project Status Update-Phase-2
15		Final Term Project
16	Review for Final Exam (Chapters 7-12)	Final Exam

Important University Dates:

Please visit the following link to access 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]

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 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].

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].

Drop Policy

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

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]. 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 Tutor Matching Services [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 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 here [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 Library website [http://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 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.

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].

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 254-501-5805.