CSC/COSC 4341-110, Security and Risk Management
Fall 2022
Texas A&M University-Central Texas

INSTRUCTOR AND CONTACT INFORMATION

Instructor: Dr. Francisco Polzin
Office: Online (no physical office)
Email: For course related information communications, please use Canvas messaging feature. If Canvas unavailable, please email the instructor using your TAMUCT student email address.

COBA Department Phone Number: (254) 519-5437, Email: cobainfo@tamuct.edu, Fax#: (254)501-5825

Office Hours: I do not have an office on campus, but I will be available for students on an appointment basis to meet online. Send me Canvas message to schedule an appointment to meet online.

COURSE DATES, MODALITY, AND LOCATION

Mode of instruction and course access:
This is an 100% ONLINE course – there will be NO "official" face-to-face classroom time. This class meets online during the 16-week semester that begins Aug 22, 2022, and ends Dec 10, 2022.
The A&M-Central Texas Canvas Learning Management System (Canvas) [https://tamuct.instructure.com] will be our primary resource for the class information. You will use the Canvas username and password provided to you to logon to this system. The course syllabus, schedule, supplemental readings, class announcements, power point slides, learning modules, homework assignments, exams and other course related documents will be posted on Canvas. Each student is responsible for the posted material and should check Canvas at least daily for updates. The course outline in this syllabus shows the basic schedule for the semester.

Student-instructor interaction:
Please send all course related correspondence through Canvas "Inbox". Please use TAMUCT email only when Canvas is not available (or for non-course related correspondence). I check email several times a day during the week and at least once during the weekends. I will attempt to respond within 24 hours Mon-Thurs and within 48 hours on Fri through Sun. Please do not hesitate to contact me via Canvas Inbox or TAMUCT email, if there are any problems or challenges that are hindering your regular progress in the course.

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:
1. 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]
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/]

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 Objectives and 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, four class tests, five Canvas discussion questions, and four homework assignments, and one final term project. The topic of all exams will be declared in the Canvas course website. Canvas discussions are counted towards class participation points for this course. Students are required to update their Canvas settings (Account > Settings > Notifications) to allow notifications to be sent for all course-related activities.

Tests: There will be four (4) tests for this online course. The class tests will be conducted online through the Canvas course website. Each class test will be worth 40 points. The class tests will be timed and must be completed once they are started.

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.

Assignments: Four (4) homework assignments related to IT Security and Risk Management will be required. The due dates of these assignments will be posted on Canvas. Each assignment will be worth 40 points. The assignment grading rubric will be provided in the Course Portal.

Canvas Discussion: Since this course is entirely online, there is NO lecture or other face-to-face interaction. To simulate an in-person class environment, there will be multiple discussion questions throughout the semester. You will be expected to participate by posting an initial post of your own and respond to at least two other student's posts. Discussion questions will be posted at the beginning of the week, and you will have until the Sunday of the same week to complete.
NOTE: There may be more than one question in some weeks.

There will be at five (5) discussion questions for the course. Canvas Discussion posts are worth 80 points. If the quality of your postings are not sufficient, you will not earn full points. You are expected to contribute to the class discussions in a meaningful fashion. That means:

- Contributing new and relevant information to the course discussion based on readings of the textbook.
- Commenting in a positive manner.
- Building on the remarks of your fellow students – i.e., improving upon what someone else said.
- Posing questions of your fellow students; and sharing quotes, websites, and other supplementary information. All sources must be cited using APA formatted citations.
- Demonstrating practical application of the week's key concepts from your professional or personal experience.

"Substantive" does NOT include "I agree," "Great point," or "You're wonderful" type postings. These types of postings are examples of positive "teaming". These statements are fine, but not by themselves. They do not add depth or breadth to the discussion. A "substantive" initial posting should include:

- Your thesis (main point)
- Your supporting arguments
- A reference to class or outside material to support your thesis
- An example from your experiences to support your thesis.

Term Project

There will be one (1) Final Term Project worth 200 points. The complete project requirements will be posted in Canvas. 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

Activity	Quantity	Points per Activity	Total
Tests	4	40	160
Assignments	4	40	160
Midterm Exam	1	200	200
Final Exam	1	200	200
Canvas Discussions	5	16	80
Final Term Project	1	200	200
		Course Total	**1000**

Posting of Grades

All students' grade will be posted on the Canvas Grade book. Students can monitor their progress in this course using Canvas Portal. Students can expect to see their grades within one (1) week of the closing of class tests, exams, and assignments. Students are expected to visit Canvas course webpage regularly to get any update regarding this online course. All updates regarding homework and tests will be posted under the "Announcements" tab in Canvas course portal.

Grading Policy

Assignments more than 24 hours late will be subject to a 20% late penalty.

COURSE OUTLINE AND CALENDAR

Complete Course Calendar

Week	Dates	Required Reading (Modules)	Assignment(s) Due
1	8/22-8/28	Syllabus	• Introduction Post • Syllabus Acknowledgement
2	8/29-9/4	Module 1: Introduction to Information Security	Discussion Post 1
3	9/5-9/11	Module 2: The Need for Information Security	Assignment 1
4	9/12-9/19	Module 3: Information Security Management	Test 1
5	9/20-9/26	Module 4: Risk Management	Discussion Post 2
6	9/27-10/2	Module 5: Incident Response and Contingency Planning	Assignment 2
7	10/3-10/9	Module 6: Legal, Ethical, and Professional Issues in Information Security	• Discussion Post 3 • Test 2
8	10/10-10/16	Review For Midterm Exam (Chapters 1-6)	Midterm Exam **due by October 17**
9	10/17-10/23	Module 7: Security and Personnel	Term Project Status Update
10	10/24-10/30	Module 8: *Security Technology*: Access Controls, Firewalls, and VPNs	Assignment 3
11	10/31-11/6	Module 9: *Security Technology*: Intrusion Detection and Prevention Systems and Other Security Tools	Discussion Post 4

12	11/7-11/13	Module 10: Cryptography	Test 3
13	11/14-11/20	Module 11: Implementing Information Security	• Discussion Post 5 • Assignment 4
14	11/21-11/27	Module 12: Information Security Maintenance	Test 4
15	11/28-12/4		Final Term Project **due December 4**
16	12/5-12/9	Review for Final Exam (Chapters 7-12)	Final Exam **due December 10**

Important University Dates

Important university dates from the current Academic Calendar can be found at the following URL:

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/] 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

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, go to [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.

[https://federation.ngwebsolutions.com/sp/startSSO.ping?PartnerIdpId=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 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.

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.

ADDITIONAL INSTRUCTOR POLICIES

- Instructor reserves the right to modify the syllabus during the semester for the benefit of the students.
- Instructor reserves the right to supplement the material presented in the text with additional material that may benefit the students by providing additional information or different point of view.
- Instructor expects that the students will conduct themselves in a professional manner for all interactions with other students and the instructor.
- Instructor reserves the right to modify grading rubrics. Changes to grading rubrics will only be made to current or future assignments. No retroactive updates to previous assignment rubrics.
- Any changes made will be announced on Canvas.

- The instructor will not accept any course assignment after December 9, 2022, for the Fall 2022 semester.
- All the assignments must be submitted before the posted deadline in Canvas Course website unless arrangements are made beforehand.
- Assignments more than 24 hours late are subject to a 20% late penalty.

Copyright Notice

Students should assume that all course material is copyrighted by the respective author(s). Reproduction of course material is prohibited without consent by the author and/or course instructor. Violation of copyright is against the law and Texas A&M University-Central Texas' Code of Academic Honesty. All alleged violations will be reported to the Office of Student Conduct.