



Texas A&M University-Central Texas  
CIS 4342 – 115, CRN 60173, Computer Security Principles and Practices  
Summer 2023

## **COURSE DATES, MODALITY, AND LOCATION**

### **INSTRUCTOR AND CONTACT INFORMATION**

**Instructor:** Kul Prasad Subedi

**Office:** Online

**Email:** [kul.subedi@tamuct.edu](mailto:kul.subedi@tamuct.edu)

**Note:** For course related communications, please use Canvas “Inbox” messaging feature. If Canvas is unavailable, please email the instructor using your student email address. **COBA Department Phone Number: (254) 519-5437, Email: [cobainfo@tamuct.edu](mailto:cobainfo@tamuct.edu), Fax#: (254) 501-5825**

### **Office Hours:**

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

- **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 8-week semester that **begins June 5, 2023 and ends July 28, 2023.**

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 communicated to you separately to logon to this system. The course syllabus, schedule, supplemental readings, class announcements, powerpoint 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 personal problems or challenges that are hindering your regular progress in the course.



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

**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]
  - o [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

## **COVID-19 SAFETY MEASURES**

To promote public safety and protect students, faculty, and staff during the coronavirus pandemic, Texas A&M University-Central Texas has adopted policies and practices to minimize virus transmission. For the most current information regarding policies, practices, and updates please visit: <https://www.tamuct.edu/covid19/>

## **COURSE INFORMATION**

### **Course Overview and description**

Explore current principles, theories, and concepts behind computer security. Examine basic methods and practices of security as it affects modern business operations. Special emphasis on cryptography, authentication, access control, database security, malware, intrusion detection, firewalls, security policy and management, software and operating system security, auditing and legal aspects of cyber security. Prerequisite(s): 12 hours of CIS courses or permission of department chair.



## **Course Objective or Goal Student Learning Outcomes**

Successful completion of this course should enable the student to:

- Describe the common body of knowledge of information technology security.
- Demonstrate an understanding of computer security technologies.
- Demonstrate an understanding of user authentication and access control.
- Identify different components of cryptography.
- Demonstrate an understanding of malware and security theory.
- Demonstrate an understanding of common network attack methods and the defenses against them.
- Demonstrate an understanding of intrusion detection and intrusion prevention systems.
- Demonstrate an understanding of database security vulnerabilities and countermeasures.
- Demonstrate an understanding of software security vulnerabilities and countermeasures.
- Demonstrate an understanding of operating System security vulnerabilities and countermeasures.
- Demonstrate an understanding of physical security vulnerabilities and countermeasures.
- Demonstrate an understanding of the IT security management and implementation.
- Discuss legal and ethical issues in information security.
- Demonstrate an understanding of careers in IT security.

**Competency Goals Statements (certification or standards):** None

## **Required Reading and Textbook(s)**

**Title:** Computer Security: Principles and Practice (4th Edition)

**Author:** William Stallings & Lawrie Brown, Pearson

**ISBN-13:** 978-0134794105

**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.

**Supplementary Material:** The course textbook will be supplemented with other materials including handouts, oral presentations, industry articles, videos, research paper readings, case studies, powerpoint presentations etc.



- **On-Line References -**
  1. <https://owasp.org/www-project-top-ten/>
  2. <http://phrack.org/issues/60/10.html>
  3. <https://www.corelan.be/index.php/articles/>
  4. <https://ctftime.org/>
  5. <https://fuzzysecurity.com/>
- Students preferring to use their own computers are required to have products, data encodings, file names, system structure, and products equal to those provided in the computer lab and the server used in class.
- **Current publications** - The campus library contains numerous books and periodicals relating to Computer Science. The student should take advantage of this resource by visiting the library.

## COURSE REQUIREMENTS

**Reading Assignments:** All assigned chapters will be used as a basis for class /canvas discussions. Students are expected to study the assigned readings each week.

**Class Participation / Canvas Discussions:** As this is an online course, there is NO lecture or other face-to-face interaction. To simulate the class environment, there will be five (5) discussion posts. Each discussion post is worth 20 points. Thus, the maximum total is 100 points. You will be expected to participate by posting an initial post of your own and respond to at least two other student's posts. The discussion questions will be posted at the beginning of the week and you will have until the following Sunday to complete. Post your initial response to the discussion topic prior to 11:59 pm Wednesday and respond to other student's postings later in the week. Please do not be late in your postings as other students will be waiting on your post to respond to later in the week. Discussion topics, due dates and the grading rubric specific to discussion evaluations are available in canvas and should be used as a guide when participating in discussions. NOTE: There may be more than one question in some weeks.

Participation/discussion is worth 100 pts (10%) of your grade. If the quality of your postings is insufficient, the points will not be earned. You are expected to contribute to the class discussions in meaningful ways. That means:

- Contributing new and relevant information to the course discussion and from readings of the textbooks;
- 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. Demonstrating practical application of the week's key concepts from your professional/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” and 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.

In all postings, students are expected to observe proper rules of netiquette in both oral and written communications and conduct in a professional manner. Late submissions are not allowed for discussion forums.

**Examinations** - There will be three (3) Exams. Each will be worth 200 points. Thus, the maximum total for the assignments will be 600 points. Exams will have a short window of availability via Canvas, must be completed in one session, and will be timed. There will be no makeup for the exam. All exams must be completed by the due date.

**Homework Assignments** - There will be three (3) assignments. Each assignment will be worth 100 points. Thus, the maximum total for the assignments will be 300 points. All assignments are submitted through the canvas course web site.

*All assignment submissions require a zipped copy of your assignment that allows me to unzip, open, and view the contents or other documents associated with the assignment. You should also note that archives such as .rar, .gz, .tar, .7z, (among others) are not zip archives.*

**File Naming Convention:** Assignment submissions failing to provide the specified naming, identification, and format will not be accepted for grading. Submit your assignments via Canvas using file names with the following format:

**CIS4351\_[AssignmentID]\_[LastName.FirstName].[extension]**

**Example: CIS4351\_Assignment1\_Smith.John.docx**

**Grading Criteria Rubric and Conversion**



Assignment	Points	Percentage
Exams	500	50%
Quizzes	100	10%
Homework Assignments	300	30%
Class Participation/Canvas	100	10%
Total	1000	100%

**Posting of Grades** All student grades will be posted on the Canvas Grade book and students should monitor their grading status through this tool. Grades for weekly assignments, discussions, quizzes, and exams will be posted within 7 days (no guarantees) following the due date.

### **Grading Policies**

All work is submitted through Canvas and due on the specified due date/time. Work turned in after the due date is considered late. **Five (5) points will be deducted for each day the assignment is late.** Special circumstances need to be discussed with me ahead of time when possible. Missed assignments, projects, and examinations will receive a grade of zero.

Any work not submitted in the proper format is rejected and receives no credit. Incidents of violations of academic integrity, such as plagiarism or turning in the work of others as your own work, will result in a cap on the maximum number of points that can be earned in this class. The cap will be 600 points resulting in a best-case grade of "D" for the class.

At all times in the class, please observe proper rules of netiquette in your oral and written communication and conduct yourself in a professional manner.



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CENTRAL TEXAS.

## COURSE OUTLINE AND CALENDAR

### Complete Course Calendar

Week	Week of:	Chapter(s)	Assignment(s) Due! On Sunday of the week at 11:59pm CST
<b>1</b>	<b>5 June</b>	Course Welcome, Introduction, and Expectations  Chapter 1 - Computer Security Overview  Chapter 2 - Cryptographic Tools	Get Books  Syllabus Acknowledgement  Introduction Discussion Post  Discussion Post 1
<b>2</b>	<b>12 June</b>	Chapter 3 - User Authentication Chapter 4 - Access Control	Homework Assignment 1
<b>3</b>	<b>19 June</b>	Chapter 5 - Database and Data Center Security Chapter 6 - Malicious Software	Exam 1 (covers chapters 1 to 5)
<b>4</b>	<b>26 June</b>	Chapter 8 - Intrusion Detection Chapter 9 - Firewalls and Intrusion Prevention Systems	Homework Assignment 2 Discussion Post 2
<b>5</b>	<b>3 July</b>	Chapter 11 - Software Security Chapter 12 - Operating System Security	Exam 2 (covers chapters 6,8,9,11)
<b>6</b>	<b>10 July</b>	Chapter 14 - IT Security Management and Risk Assessment Chapter 15 - IT Security Controls,	Homework Assignment 3

		Plans and Procedures	Discussion Post 3
<b>7</b>	<b>17 July</b>	Chapter 16 - Physical and Infrastructure Security Chapter 17 - Human Resources Security	Discussion Post 4
<b>8</b>	<b>24 July</b>	Chapter 19 - Legal and Ethical Aspects Review Chapters 12, 14, 15, 16, 17	Exam 3 (covers chapters 12,14,15,16,17, and 19) due 7/28/2023  <b>*All work must be submitted by last day of class, July 28, 2023.</b>

**Important University Dates**

The A&M-CT Academic Calendars track the important deadlines and dates for the school year and semesters. It is available as a viewable and downloadable PDF at the following link: <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](mailto: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.

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 a 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](#). If you know of potential honor violations by other students, you may [submit a report](#).

### **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>]

### **Important information for Pregnant and/or Parenting Students**

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

Title IX of the Education Amendments Act of 1972 prohibits discrimination on the basis of sex and gender—including pregnancy, parenting, and all related conditions.

A&M-Central Texas is able to provide flexible and individualized reasonable accommodation to pregnant and parenting students. All pregnant and parenting students should contact the Associate Dean in the Division of Student Affairs at (254) 501-5909 to seek out assistance. Students may also contact the University's Title IX Coordinator.

### **Tutoring**

Tutoring is available to all A&M-Central Texas students, both virtually and in-person.

Student success coaching is available online upon request.



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

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

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

Students may arrange a one-to-one session with a trained and experienced writing tutor by making an appointment via [WCOnline](https://tamuct.mywconline.com/) [https://tamuct.mywconline.com/]. In addition, you can email Dr. Bruce Bowles Jr. at [bruce.bowles@tamuct.edu](mailto: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](https://tamuct.mywconline.com/)

[<https://tamuct.mywconline.com/>]. In addition, you can email Dr. Bruce Bowles Jr. at [bruce.bowles@tamuct.edu](mailto:bruce.bowles@tamuct.edu) if you have any questions about the UWC, need any assistance with scheduling, or would like to schedule a recurring appointment with your favorite tutor.

### **University Library**

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

Research assistance from a librarian is also available 24 hours a day through our online chat service, and at the reference desk when the library is open. Research sessions can be scheduled for more comprehensive assistance, and may take place virtually through WebEx, Microsoft Teams or in-person at the library. [Schedule an appointment here](https://tamuct.libcal.com/appointments/?g=6956) [<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) [<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 to 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.

## **OTHER POLICIES**

### **INSTRUCTOR POLICIES**

1. Instructor reserves the right to modify the syllabus during the course semester for the benefit of the students.
2. Instructor reserves the right to supplement the material presented in the text with additional material that may benefit the students by either providing additional information or a different point of view.
3. Instructor expects that the students will act in a curious and professional manner in all interactions with other students and the instructor.
4. Instructor reserves the right to modify grading rubrics. Changes to grading rubrics are only made to current and/or future assignments.
5. Any changes made will be announced on Canvas.

### **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.

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College of Business; 1001 Leadership Place, Killeen, TX 76549; (254)  
519-5437; Fax 254- 501-5825; cbausley@tamuct.edu