

Texas A&M University Central Texas
CIS 4342.115
Computer Security Principles and Practice
Online

Instructor: Dr. Anitha Chennamaneni

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Preferred Email: Course Canvas Site, Inbox tool.

Alternate (if Canvas is down): anitha.chennamaneni@tamuct.edu

Office Hours: **Mon - Thur** 11 am – 2 pm Online. **Other** days and times by appointment.

I am in my office most days during Summer and am available to see drop by's in my office, but this summer, I would prefer that students take appointment before they come to see me.

Mode of instruction and course access: This is a 100% online course and uses A&M Central Texas Canvas Learning Management System (<https://tamuct.instructure.com/>). The course syllabus, schedule, supplemental readings, class announcements, power point slides, learning modules and other course related documents will be posted on canvas. Each student is responsible for the posted material, and should check canvas at least weekly for updates. The course outline in this syllabus shows the basic schedule for the semester. New weekly assignment instructions will be posted EACH MONDAY morning throughout the semester, and assignments, discussions and quizzes, will have an associated Sunday midnight deadline.

Online learning requires students to be very self-disciplined, be sure you understand and are prepared to comply with all required class assignments and deadlines.

Student-instructor interaction: Please send all course related email correspondence through Canvas Inbox Tool. Please use TAMUCT email only when Canvas is not available. I check email several times a day during the week and at least once during the weekends. I will respond within 24 hours and within 48 hours on Saturday through Sunday. Please do not hesitate to stop by my office during the scheduled office hours or contact me via phone / Canvas Conversations Tool or *TAMUCT email*, if there are any personal problems or challenges that are hindering your regular progress in the course.

911 Cellular:

Emergency Warning System for Texas A&M University – Central Texas

911Cellular is an emergency notification service that gives Texas A&M University-Central Texas the ability to communicate health and safety emergency information quickly via email, text message, and social media. All students are automatically enrolled in 911 Cellular through their myCT email account.

Connect at [911Cellular](https://portal.publicsafetycloud.net/Texas-AM-Central/alert-management) [https://portal.publicsafetycloud.net/Texas-AM-Central/alert-management] to change where you receive your alerts or to opt out. By staying enrolled in 911Cellular, university officials can quickly pass on safety-related information, regardless of your location.

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 Objectives:

Successful completion of this course should enable the student to

- Describe the common body of knowledge of information technology security
- Demonstrate an understanding of the 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

Required Reading and Textbook(s):

Computer Security: Principles and Practice 4th Edition; William Stallings & Lawrie Brown, Pearson, ISBN-13: 978-0134794105

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.

- **Supplementary Material:** The course textbook will be supplemented with other materials including handouts, oral presentations, industry articles, videos, research paper readings, case studies, power point presentations etc.
- **On-Line References TBA**
- 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 basis for class /canvas discussions. Students are expected to study the assigned readings before each class session.
- **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 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. 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 not sufficient, 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 exams. Each will be worth 200 points. Exams will have a short window of availability via Canvas, must be completed in one session, and will be timed. Makeup exams will be given ONLY when arrangements have been made PRIOR to the class meeting.
- **Homework Assignments** - There will be 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. Please include your name and assignment identification in the zip file name (YourName_ChX.zip). You should also note that archives such as .rar, .gz, .tar, .7z, (among others) are not zip archives. Assignment submissions failing to provide the specified naming, identification, and format will not be accepted for grading. All assignments are due on the specified due date and time. Assignments turned in after due dates are considered late. 5 points will be deducted for each day the assignment is late. Special circumstances need to be discussed with the instructor ahead of time when possible

Grading Criteria Rubric and Conversion

Assignment	Points	Percent	My Grade
Exam 1	200 points	20%	
Exam 2	200 points	20%	

Exam 3	200 points	20%	
Homework Assignments	300 points	30%	
Class Participation / Canvas Discussions	100 points	10%	

89.5-100%	895-1000 points	A
79.5-89.4%	795-894 points	B
69.5-79.4%	695-794 points	C
59.5-69.4%	595-694 points	D
0-59.4%	0-594 points	F

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 following the due date.

COURSE OUTLINE AND CALENDAR

Complete Course Outline

The instructor reserves the right to make changes to this syllabus. Any changes that effect grades or grading will be made in writing.

Week / Dates	Topic	Instructional Activities	Assignments Due
1 6/4- 6/10	Course Welcome, Introduction, and Expectations <u>Chapter 1</u> – Computer Security Overview <u>Chapter 2</u> – Cryptographic Tools	Purchase and receive text Read Syllabus in- depth Read Chapters 1, 2 & assigned readings Take notes on chapter readings & PPT slides	Post to Introductory Meet & Greet Discussion forum Participate in Canvas Discussion Post1

2 6/11 - 6/17	<u>Chapter 3</u> - User Authentication <u>Chapter 4</u> - Access Control	Read Chapters 3, 4 & assigned readings Take notes on chapter readings & PPT slides	Homework Assignment 1
3 6/18 - 6/24	<u>Chapter 5</u> - Database and Data Center Security <u>Chapter 6</u> - Malicious Software	Read Chapters , 5, 6 & assigned readings Take notes on chapter readings & PPT slides	Exam 1 covers chapters 1 to 5 available online Jun 20 , 8 a.m. - Jun 24, 11:59 p.m.; once started must be completed in same session
4 6/25 - 7/1	<u>Chapter 8</u> - Intrusion Detection <u>Chapter 9</u> - Firewalls and Intrusion Prevention Systems	Read Chapters , 7, 8 & assigned readings Take notes on chapter readings & PPT slides	Homework Assignment 2 Discussion post 2
5 7/2 - 7/8	<u>Chapter 11</u> - Software Security <u>Chapter 12</u> - Operating System Security	Read Chapters , 9, 10 & assigned readings Take notes on chapter readings & PPT slides	Exam 2 covers chapters 6, 8, 9, 11 and 12 available online Jul 3rd , 8 a.m. - Jul 8th, 11:59 p.m.; once started must be completed in same session
6 7/9 - 7/15	<u>Chapter 14</u> - IT Security Management and Risk Assessment <u>Chapter 15</u> - IT Security Controls, Plans and Procedures	Read Chapters , 11, 12 & assigned readings Take notes on	Homework Assignment 3 Discussion post 3

		chapter readings & PPT slides	
7 7/16 – 7/22	<u>Chapter 16</u> – Physical and Infrastructure Security <u>Chapter 17</u> – Human Resources Security	Read Chapters , 13, 14 & assigned readings Take notes on chapter readings & PPT slides	Discussion Post 4
8 7/23 – 7/27	Chapter 19 – Legal and Ethical Aspects Final Exam		Exam 3 covers chapters 14, 15, 16, 17 and 19 available online Jul 23 , 8 a.m. – Jul 26, 11:59 p.m.; once started must be completed in same session

TECHNOLOGY REQUIREMENTS AND SUPPORT

Technology Requirements.

This course will use the A&M-Central Texas Instructure Canvas learning management system.

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

Drop Policy.

If you discover that you need to drop this class, you must complete a [Drop Request Form](https://www.tamuct.edu/registrar/docs/Drop_Request_Form.pdf) [https://www.tamuct.edu/registrar/docs/Drop_Request_Form.pdf].

Professors 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, signed and returned. Once you return the signed form to the Registrar's Office, you must go into Warrior Web and confirm that you are no longer enrolled. If you still show as enrolled, FOLLOW-UP with the Registrar's Office immediately. You are to attend class until the procedure is complete to avoid penalty for absence. Should you miss the drop deadline or fail to follow the procedure, you will receive an F in the course, which may affect your financial aid and/or VA educational benefits.

Academic Integrity.

Texas A&M University -Central Texas values the integrity of the academic enterprise and strives for the highest standards of academic conduct. A&M-Central Texas expects its students, faculty, and staff to support the adherence to high standards of personal and scholarly conduct to preserve the honor and integrity of the creative community. Academic integrity is defined as a commitment to honesty, trust, fairness, respect, and responsibility. Any deviation by students from this expectation may result in a failing grade for the assignment and potentially a failing grade for the course. Academic misconduct is any act that improperly affects a true and honest evaluation of a student's academic performance and includes, but is not limited to, cheating on an examination or other academic work, plagiarism and improper citation of sources, using another student's work, collusion, and the abuse of resource materials. All academic misconduct concerns will be reported to the university's Office of Student Conduct. Ignorance of the university's standards and expectations is never an excuse to act with a lack of integrity. When in doubt on collaboration, citation, or any issue, please contact your instructor before taking a course of action.

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 Department of Access and Inclusion is responsible for ensuring that students with a disability receive equal access to the university's programs, services and activities. If you believe you have a disability requiring reasonable accommodations please contact the Department of Access and Inclusion at (254) 501-5831. Any information you provide is

private and confidential and will be treated as such.

For more information please visit our [Access & Inclusion](https://www.tamuct.edu/student-affairs/access-inclusion.html) web page [https://www.tamuct.edu/student-affairs/access-inclusion.html].

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 the [Student Affairs](https://www.tamuct.edu/student-affairs/index.html) web page [https://www.tamuct.edu/student-affairs/index.html]. Students may also contact the institution's Title IX Coordinator. If you would like to read more about these [requirements and guidelines online](http://www2.ed.gov/about/offices/list/ocr/docs/pregnancy.pdf), 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 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 on-campus and online. Subjects tutored on campus include Accounting, Advanced Math, Biology, Finance, Statistics, Mathematics, and Study Skills. Tutors are available at the Tutoring Center in Warrior Hall, Suite 111.

If you have a question regarding tutor schedules, need to schedule a tutoring session, are interested in becoming a tutor, or have any other question, contact Academic Support Programs at (254) 519-5796, or by emailing Dr. DeEadra Albert-Green at deeadra.albertgreen@tamuct.edu.

Chat live with a tutor 24/7 for almost any subject from on your computer! Tutor.com is an online tutoring platform that enables A&M-Central Texas students to log in and receive FREE online tutoring and writing support. This tool provides tutoring in over 40 subject areas. Access Tutor.com through Canvas.

University Writing Center: Located in 416 Warrior Hall, the University Writing Center (UWC) at Texas A&M University-Central Texas is a free workspace open to all TAMUCT students from 10am-4pm Monday-Thursday during the summer with online hours available Monday-Thursday from 6:00-9:00pm. Students may arrange a one-on-one session with a trained and experienced writing tutor by visiting the UWC during normal operating

hours (both half-hour and hour sessions are available) or by making an appointment via [WCOnline](https://tamuct.mywconline.com/) at [https://tamuct.mywconline.com/]. In addition, you can email Dr. Bruce Bowles Jr. at bruce.bowles@tamuct.edu to schedule an online tutoring session. 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 University Writing Center is here to help!

If you have any questions about the University Writing Center, please do not hesitate to contact Dr. Bruce Bowles Jr. at bruce.bowles@tamuct.edu.

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 250,000 eBooks and 82,000 journals, in addition to the 85,000 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 on Skype or in-person at the library. Assistance may cover many topics, including how to find articles in peer-reviewed journals, how to cite resources, and how to piece together research for written assignments.

Our 27,000-square-foot facility on the A&M-Central Texas main campus includes student lounges, private study rooms, group work spaces, computer labs, family areas suitable for all ages, and many other features. Services such as interlibrary loan, TexShare, binding, and laminating are available. The library frequently offers workshops, tours, readings, and other events. For more information, please visit our [Library website](http://tamuct.libguides.com/index) [http://tamuct.libguides.com/index].

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 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/departments/compliance/titleix.php) [https://www.tamuct.edu/departments/compliance/titleix.php].

INSTRUCTOR POLICIES.

The instructor reserves the right to make changes to this syllabus during the course of the semester for the benefit of the students. Any changes that effect grades or grading will be made in writing.

Instructor reserves the right to supplement the material presented in the text with additional material including handouts, oral presentations, industry articles, videos, research paper readings, case studies, power point presentations etc. for the benefit of the students

All work is submitted through Canvas and due on the specified due date/time. Work turned in after due date is considered *late*. 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

The Operation of the Online Course and Being an Online Student. Online learning requires students to be very self-disciplined and demands regular and consistent participation in the class. Please read the document posted on Canvas on what makes a successful online student. Be sure you understand and are prepared to comply with all required class assignments and deadlines. If you are not able to comply, for any reason, you

must contact me immediately.

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.