



TEXAS A&M UNIVERSITY  
**SAN ANTONIO**

CISA\_3325:600, **Network Security**, Fall 2024

Department of Computing and Cyber Security, College of Business

### **Course Syllabus**

**Class Meeting Time and Place:** Monday 7:00 - 9:45 PM, Online  
**Instructor:** Dr. Jiang Hu  
Office: BLH 441E  
E-Mail: [jiang.hu@tamusa.edu](mailto:jiang.hu@tamusa.edu)

**Course Website:** <https://tamusa.blackboard.com/>

**Office Hours:** Wednesday 1– 4 pm (in person)  
Thursday 1– 4 pm (online)

**Catalog Course Description:** The course explores mechanisms for protecting networks against attacks with an emphasis placed on network security applications for the Internet and corporate networks. The course also investigates various networking security standards and explores methods for enforcing and enhancing those standards. TSI Restriction(s): Reading, Math, and Writing. Prerequisite: Grade of C or better in each of: MATH 1314 or equivalent, and (CSEC 2306 or CISA 2306 or CSCI 4406), and (CSEC 3321 or CISA 3321 or CSCI 3321 or CISA 4321 or CSCI 4321).

**Course Objectives:** This course studies the design, implementation, operation, and maintenance of secure computer networks. It covers the basic threats and countermeasures in addition to the business decisions that determine the ultimate network security architecture.

**Prerequisites:** Grade of C or better in each of: MATH 1314 or equivalent, and (CSEC 2306 or CISA 2306 or CSCI 4406), and (CSEC 3321 or CISA 3321 or CSCI 3321 or CISA 4321 or CSCI 4321). Students who do not meet the prerequisites must contact the instructor immediately.

#### **Student Learning Outcomes:**

After successful completion of this course, students will be able to:

- Identify and categorize attackers and the types of attacks they carry out.
- Apply cyber defense methods to prepare a network to repel attacks.
- Use network monitoring and mapping tools.

- Explain the interaction between security and system usability and the importance of minimizing the effects of security mechanisms.
- Implement encryption standards to protect information assets and secure business functions.
- Implement network and information system access control.
- Describe incident response measures should a network compromise occur.

**Required Materials:**

▪ **Textbook and Optional Reading**

- Stallings, William. (2017). *Cryptography and network security: Principles and practice. 7<sup>th</sup> edition*. Pearson. ISBN 9780134484525.
- Michael E. Whitman, Herbert J. Mattord, David Mackey, and Andrew Green, *Guide to Network Security*, First Edition. Course Technology, Cengage Learning, 2013, ISBN-13 978-0-840-02422-0.

▪ **Blackboard:** Connect to <http://tamusa.blackboard.com>. You will have lecture notes, solutions to problems, multimedia materials, and other supplementary materials in Blackboard.

▪ **Computer Hardware:** Bringing your own laptop is recommended, but not required.

▪ **Time Expectation for coursework:** You are expected to spend 4-8 hours per week in addition to class meetings for the course. Based on the background, some students may require more time. Time spent may be longer when assignments/exams are due.

**Other Recommended / Reading Materials:** Additional reading materials are available on the course website as recommended by the instructor.

***Course Requirements every student must fulfill in order to succeed in the course:***

1. Students should check the Course Calendar, Announcements, and Messages (e-mail) systems in Blackboard regularly.
2. Students should keep current with all course assignments, quizzes, and examinations.
3. Students should ask questions and communicate with the instructor either in class, online, offline or during office hours.

For all classwork, exams, quizzes, etc., if a student is completing it off-campus, then they are responsible for the availability of internet connectivity. Extensions will not be granted for lack of availability of internet connections.

**Grading Policy:** The final course grade will be based on your performance on the quizzes, exams, assignments, and class participation using the following weights:

	Percentage
Chapter Assignment	20%
Exam1	20%
Exam2	20%
Final Exam	25%
Class Exercises	15%
Total	100%

The final letter grades will be assigned as follows: Above 90% ⇒ A; 80 – 89% ⇒ B; 70 – 79% ⇒ C; 60 – 69% ⇒ D; Below 60% ⇒ F. This course has a requirement of a grade of C as a minimal grade for satisfactory completion of this course.

**Examinations and Quizzes:** There will be three exams in this course. Being absent for an exam will result in a grade of zero for that exam and may result in a fail grade in the course. The exams/quizzes will consist of conceptual multiple-choice questions, problem solving questions, or short essay questions. The exam/quiz materials will come from lecture notes, the text, and class discussions. Questions will emphasize understanding and applications of concepts and topics covered in class.

**Assignments:** Assignments and class exercises will be available on Blackboard and must be submitted on Blackboard. Unless otherwise stated, homework assignments must be submitted in a *single* Microsoft Word document. Do NOT submit multiple documents. A detailed schedule of projects and exercises will be posted in Blackboard. All assignments have a due date. All assignments are due at 11:59 on their due date.

**Class conduct and civility code:** Everyone in class is expected to follow all rules in the student handbook, as well as common courtesy during classroom lectures and discussions in class and online, including the following:

1. Attendance may be taken at the beginning or the end of the class.
2. It is the student's responsibility to obtain and be able to use the required materials and software for this class.
3. Students must retain copies of all assignments and graded work for verification purposes and provide it to the instructor, if necessary. Keep your own copies of all computer files and e-mails till the final grade is received.
4. Talking while the instructor is lecturing is extremely disruptive and discourteous to the instructor and other students.
5. Using computers or phones (except for a valid urgent need) during class for a purpose not related to class is disruptive. All cell phones and gadgets should be turned OFF and headphones removed.
6. For any questions about the exams and assignments, a student should contact the instructor, well in advance of the day they are due, so the instructor may have enough time to provide feedback.
7. All communications will be via e-mail communications to the Texas A&M University e-mail account, and students are expected to use their school provided email account. The instructor will reply to a student's e-mail messages and voice messages within 2 business days (Monday-Friday).
8. All assignment submissions must be uploaded to Blackboard by the due date and time. Submission window may close or be marked late, even if late by one second.

Anyone violating these policies may be subject to disciplinary action.

**Class attendance and Participation:** Students are responsible for the materials covered in class. The course covers a lot of material and most students find at least some parts of it difficult. Class participation is highly encouraged as it makes the class more interesting and enhances the learning experience. Students are strongly encouraged to ask questions, participate in class discussions and problem solving, and visit/contact the instructor during office hours in case of questions or concerns. The course is intensive and challenging and you are expected to master the materials presented in class. The structure of the class makes your individual study and preparation outside of class extremely important, and may vary considerably based on student background. However, a minimum of two hours of work outside the class is expected for every one hour of class period per week. Reading the assigned chapter(s) and having some familiarity with them before class will be very useful for understanding lectures.

### ***Fall 2024 CISA 3325:600 Class Schedule***

The provisions and information set forth in the schedule below are intended to be informational and not contractual in nature. The instructor reserves the right to amend, alter, change, delete, or modify the provisions of the schedule.

<b>Date</b>	<b>Week</b>	<b>Concept Module</b>	<b>All Due by 11:59 p.m.</b>
8/26 – 8/30	1	Syllabus	
9/02 – 9/06	2	Labor Day (No Class)	
9/09 – 9/13	3	Ch 1, Computer & Network Security Concepts	Chapter Assignment 1, due by 9/13
9/16 – 9/20	4	Ch 2, Introduction to Networking	Chapter Assignment 2, due by 9/20
9/23 – 9/27	5	Ch 3, Introduction to Number Theory	Chapter Assignment 3, due by 9/27
9/30 – 10/04	6	Ch 4, Classical Encryption Techniques	Chapter Assignment 4, due by 10/04
10/07 – 10/11	7	Exam 1 (Ch 1 - 4)	10/07 from 8:00 am to 11:59 pm
10/14 – 10/18	8	Ch 5, Auditing, Monitoring and Logging	Chapter Assignment 5, due by 10/18
10/21 – 10/25	9	Ch 6, Firewall Technologies	Chapter Assignment 6, due by 10/25
10/28 – 11/01	10	Ch 7, Network Authentication and VPN	Chapter Assignment 7, due by 11/01
11/04 – 11/08	11	Exam 2 (Unit 5 - 7)	11/04 from 8:00 am to 11:59 pm
11/11 – 11/15	12	Ch 8, Wireless Network Security	Chapter Assignment 8, due by 11/15

11/18 – 11/22	13	Ch 9, Security of Web Application	Chapter Assignment 9, due by 11/22
11/25 – 11/29	14	Thanksgiving Break	
12/02 – 12/06	15	Ch 10, Internet of Things (IoT) Security	Chapter Assignment 10, due by 12/06
12/09 – 12/13	16	Exam 3 (Unit 8 -10)	TBD

Academic Accommodations for Persons with Disabilities: The Americans with Disabilities Act Amendments Act (ADAAA) of 2008 and the Rehabilitation Act of 1973 are federal anti-discrimination statutes that provide comprehensive civil rights protection for persons with disabilities. Title II of the ADAAA and Section 504 of the Rehabilitation Act require that students with disabilities be guaranteed equal access to the learning environment through the provision of reasonable and appropriate accommodation of their disability. If you have a diagnosed disability that may require an accommodation, please contact Disability Support Services (DSS) for the coordination of services. The phone number for DSS is (210) 784-1335 and email is [dssupport@tamusa.edu](mailto:dssupport@tamusa.edu).

Academic Learning Center: The Academic Learning Center provides free course-based tutoring to all currently enrolled students at Texas A&M University-San Antonio. Students wishing to work with a tutor can make appointments through the Brainfuse online tutoring platform. Brainfuse can be accessed in the *Tools* section of Blackboard. You can contact the Academic Learning Center by emailing [tutoring@tamusa.edu](mailto:tutoring@tamusa.edu), calling (210) 784-1307, or visiting the Central Academic Building, room 202.

Counseling/Mental Health Resources: As a college student, there may be times when personal stressors interfere with your academic performance and/or negatively impact your daily functioning. If you are experiencing emotional difficulties or mental health concerns, support is available to you through the Student Counseling Center (SCC). To schedule an appointment call 210-784-1331 or visit Modular C, Room 166 (Rear entrance).

All mental health services provided by the SCC are free and confidential (as the law allows). The Student Counseling Center provides brief individual and group therapy, crisis intervention, consultation, case management, and prevention services.

**Crisis support is available 24/7 by calling the SCC at 210-784-1331 (after-hours select option ‘2’).** For more information and self-help resources, please visit [www.tamusa.edu/studentcounseling](http://www.tamusa.edu/studentcounseling)

Emergency Preparedness: JagE Alert is Texas A&M University-San Antonio’s mass notification. In the event of an emergency, such as inclement weather, students, staff and faculty, who are registered, will have the option to receive a text message, email with instructions and updates. To register or update your information visit: <https://tamusa.bbcportal.com/>.

More information about Emergency Preparedness and the Emergency Response Guide can be found here: <https://www.tamusa.edu/uploadfile/folders/sdbowen23/pdf/pdf-635073426137928167-10.100.20.116.pdf>

Financial Aid and Verification of Attendance: According to the following federal regulation, 34 CFR 668.21: U.S. Department of Education (DoE) Title IV regulation, a student can only receive Title IV funds based on Title IV eligibility criteria which include class attendance. If Title IV funds are disbursed

to ineligible students (including students who fail to begin attendance), the institution must return these funds to the U.S. DoE within 30 days of becoming aware that the student will not or has not begun attendance. Faculty will provide the Office of Financial Aid with an electronic notification if a student has not attended the first week of class. Any student receiving federal financial aid who does not attend the first week of class will have their aid terminated and returned to the DoE. Please note that any student who stops attending at any time during the semester may also need to return a portion of their federal aid.

Meeting Basic Needs: Any student who has difficulty affording groceries or accessing sufficient food to eat every day, or who lacks a safe and stable place to live, and believes this may affect their performance in the course, is urged to contact the Dean of Students (DOS@tamusa.edu) for support. Furthermore, please notify the professor if you are comfortable in doing so. This will enable them to provide any resources they may possess.

Military Affairs: Veterans and active-duty military personnel are welcomed and encouraged to communicate, in advance if possible, and special circumstances (e.g., upcoming deployment, drill requirements, disability accommodations). You are also encouraged to visit the Patriots' Casa in-person room 202, or to contact the Office of Military Affairs with any questions at military@tamusa.edu or (210)784-1397.

Religious Observances: Texas A&M University-San Antonio recognizes the diversity of faiths represented among the campus community and protects the rights of students, faculty, and staff to observe religious holidays according to their tradition. Under the policy, students are provided an opportunity to make up any examination, study, or work requirements that may be missed due to a religious observance provided they notify their instructors before the end of the second week of classes for regular session classes.

Respect for Diversity: We understand that our students represent diverse backgrounds and perspectives. When we are equity-minded, we are aware of differences and inequalities and are willing to discuss them so we can act to resolve them. The University is committed to building cultural competencies, or the attitudes, skills, and knowledge that enable individuals and organizations to acknowledge cultural differences and incorporate these differences in working with people from diverse cultures. Respecting and accepting people different than you is vital to your success in the class, on campus, and as a future professional in the global community. While working together to build this community we ask all members to:

- Share their unique experiences, values, and beliefs.
- Be open to the views of others.
- Honor the uniqueness of their colleagues.
- Value each other's opinions and communicate respectfully.
- Keep confidential discussions that the community has of a personal (or professional) nature.
- Use this opportunity together to discuss ways in which we can create an inclusive environment in this course and across the A&M-San Antonio community.

The Six-Drop Rule: Students are subject to the requirements of Senate Bill (SB) 1231 passed by the Texas Legislature in 2007. SB 1231 limits students to a maximum of six (6) non-punitive course drops (i.e., courses a student chooses to drop) during their undergraduate careers. A non-punitive drop does not affect the student's GPA. However, course drops that exceed the maximum allowed by SB 1231 will be treated as "F" grades and will impact the student's GPA.

Statement of Harassment and Discrimination: Texas A&M University-San Antonio is committed to the fundamental principles of academic freedom, equality of opportunity and human dignity. To fulfill its

multiple missions as an institution of higher learning, A&M-San Antonio encourages a climate that values and nurtures collegiality, diversity, pluralism and the uniqueness of the individual within our state, nation, and world. All decisions and actions involving students and employees should be based on applicable law and individual merit. Texas A&M University-San Antonio, in accordance with applicable federal and state law, prohibits discrimination, including harassment, on the basis of race, color, sex, religion, national origin, age, disability, genetic information, veteran status, sexual orientation, gender identity, or gender expression. Individuals who believe they have experienced harassment or discrimination prohibited by this statement are encouraged to contact the appropriate offices within their respective units.

Texas A&M University-San Antonio faculty are committed to providing a safe learning environment for all students and for the university as a whole. If you have experienced any form of sex- or gender-based discrimination or harassment, including sexual assault, sexual harassment, domestic or dating violence, or stalking, know that help and support are available. A&M-San Antonio's Title IX Coordinator can support those impacted by such conduct in navigating campus life, accessing health and counseling services, providing academic and housing accommodations, and more. The university strongly encourages all students to report any such incidents to the Title IX Coordinator. Please be aware that all A&M-San Antonio employees (other than those designated as confidential resources such as counselors and trained victims advocates) are required to report information about such discrimination and harassment to the university. This means that if you tell a faculty member about a situation of sexual harassment or sexual violence, or other related misconduct, the faculty member must share that information with the university's Title IX Coordinator ([titleix@tamusa.edu](mailto:titleix@tamusa.edu), 210-784-2061, CAB 439K). If you wish to speak to a confidential employee who does not have this reporting responsibility, you can contact the Student Counseling Center at (210) 784-1331, Modular C.

Students' Rights and Responsibilities: The following statement of students' rights and responsibilities is intended to reflect the philosophical base upon which University Student Rules are built. This philosophy acknowledges the existence of both rights and responsibilities, which is inherent to an individual not only as a student at Texas A&M University-San Antonio but also as a citizen of this country.

#### *Students' Rights*

1. A student shall have the right to participate in a free exchange of ideas, and there shall be no University rule or administrative rule that in any way abridges the rights of freedom of speech, expression, petition and peaceful assembly as set forth in the U.S. Constitution.
2. Each student shall have the right to participate in all areas and activities of the University, free from any form of discrimination, including harassment, on the basis of race, color, national or ethnic origin, religion, sex, disability, age, sexual orientation, or veteran status in accordance with applicable federal and state laws.
3. A student has the right to personal privacy except as otherwise provided by law, and this will be observed by students and University authorities alike.
4. Each student subject to disciplinary action arising from violations of university student rules shall be assured a fundamentally fair process.

#### *Students' Responsibilities*

1. A student has the responsibility to respect the rights and property of others, including other students, the faculty and administration.
2. A student has the responsibility to be fully acquainted with the published University Student Rules found in the Student Handbook, [Student Code of Conduct](#), on our website, University Catalog and to comply with them, as well as federal, state, and local laws.

3. A student has the responsibility to recognize that student actions reflect upon the individuals involved and upon the entire University community.
4. A student has the responsibility to recognize the University's obligation to provide an environment for learning.
5. A student has the responsibility to check their university email for any updates or official university notification.

We expect that students will behave in a manner that is dignified, respectful, and courteous to all people, regardless of sex, ethnic/racial origin, religious background, sexual orientation or disability. Behaviors that infringe on the rights of another individual will not be tolerated.

Students are expected to exhibit a high level of honesty and integrity in their pursuit of higher education. Students engaging in an act that violates the standards of academic integrity will find themselves facing academic and/or disciplinary sanctions. Academic misconduct is any act, or attempt, which gives an unfair advantage to the student. Additionally, any behavior specifically prohibited by a faculty member in the course syllabus or class discussion may be considered as academic misconduct. For more information on academic misconduct policies and procedures please review the [Student Code of Conduct](#).



### **Use of Generative AI Permitted Under Some Circumstances or With Explicit Permission**

There are situations and contexts within this course where you may be asked to use artificial intelligence (AI) tools to explore how they can be used. Outside of those circumstances, you should not use AI tools to generate content (text, video, audio, images) that will end up in any student work (assignments, activities, discussion responses, etc.) that is part of your evaluation in this course. Any student work submitted using AI tools should clearly indicate with attribution what work is the student's work and what part is generated by the AI. In such cases, no more than 25% of the student work should be generated by AI. If any part of this is confusing or uncertain, students should reach out to their instructor for clarification before submitting work for grading. Use of AI-generated content without the instructor's permission and/or proper attribution in this course qualifies as academic dishonesty and violates Texas A&M-San Antonio's standards of academic integrity.

Writing, Language, and Digital Composing Center: The Writing, Language, and Digital Composing Center supports graduate and undergraduate students in all three colleges as well as faculty and staff. Tutors work with students to develop reading skills, prepare oral presentations, and plan, draft, and revise their written assignments. Our language tutors support students enrolled in Spanish courses and students composing in Spanish for any assignment. Our digital studio tutors support students working on digital projects such as eportfolios, class presentations, or other digital multimedia projects. Students can schedule appointments through JagWire under the Student Services tab. Click on "Writing, Language, and Digital Composing Center" to make your appointment. The Center offers face-to-face, synchronous online, and asynchronous digital appointments. More information about what services we offer, how to make an appointment, and how to access your appointment can be found on our website at <https://bit.ly/WL>

## Key Dates for Fall 2024 Semester

The complete academic calendar is available online:

<https://catalog.tamusa.edu/undergraduate/academic-calendar/>

<b>Date</b>	<b>Day</b>	<b>Event</b>
August 19	Monday	Tuition & fee payment deadline
August 22	Thursday	Drop for non-payment
August 23	Friday	Last day for students withdrawing to receive 100% refund and responsible for 0% of tuition
August 26	Monday	First class day
September 2	Monday	Labor Day Holiday
September 3	Tuesday	Last day to register for Fall 16-Week Session
September 11	Wednesday	Census Date
September 12	Thursday	Drop for non-payment
October 7-18	Monday-Friday	Midterm grading period
November 11	Monday	Last day to drop with an automatic grade of "W"
November 19	Tuesday	Last day to withdraw from the university
November 27	Wednesday	Study Day - No classes
November 28-30	Thursday-Saturday	Thanksgiving Holiday
December 5	Thursday	Last day of scheduled weekday classes
December 6	Friday	Study Day - No classes
December 7-13	Saturday-Friday	Final examinations
December 13	Friday	End of Fall Semester
December 16	Monday	All grades for Fall 16-week session due by noon via Jagwire
December 17	Tuesday	Commencement
December 19	Thursday	Grades available in JagWire
December 24-January 1	Tuesday-Wednesday	Winter Break