



HLS 5370-110, CRN 10413, Foundations of Information Security

Spring 2019

Texas A&M University-Central Texas

COURSE DATES, MODALITY, AND LOCATION

Course Dates: January 14, 2019 through May 10, 2019

Room: Founders Hall 307

Time: Thurs 6:00pm – 9:00pm

This course is a Face-to-Face course; however, the A&M-Central Texas Canvas Learning Management System (Canvas) [<https://tamuct.instructure.com>] extensively – pretty much for all but the lectures. 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, 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 the Canvas at least weekly for updates. The course outline in this syllabus shows the basic schedule for the semester

INSTRUCTOR AND CONTACT INFORMATION

Instructor: Randy Brown

Office: FH 323-J

Phone: 254-519-5462

Email: rwbrown@tamuct.edu

For course related communications, please use Canvas “Inbox”

COBA Department Main Phone Number: (254) 519-5437

COBA Department Main Email: cobainfo@tamuct.edu

COBA Department Main Fax#: (254) 501-5825

Office Hours:

Location	Mon	Tues	Wed	Thurs	Fri
FH 323J	By Appointment	1:00 - 4:00 pm, & by appointment	By Appointment	1:00 - 4:00 pm, & by appointment	By Appointment
Virtual	By Appointment	By Appointment	By Appointment	By Appointment	By Appointment

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 stop by my office during the scheduled office hours or contact me via phone, Canvas Inbox, 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 911Cellular through their myCT email account.

In an effort to enhance personal safety on the Texas A&M University – Central Texas (TAMUCT) campus, the TAMUCT Police Department has introduced Warrior Shield by 911 Cellular. [Warrior Shield](https://www.tamuct.edu/police/911cellular.html) [https://www.tamuct.edu/police/911cellular.html] can be downloaded and installed on your mobile device from Google Play or Apple Store.

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:

The course covers the fundamental concepts and principles of information security management and information assurance as they affect modern business operations. Topics covered include security and risk management; business assets security; communication and network security; database security; operating systems security; identity and access control management; physical, technical and operational security measures; security policy and management; issues; trends; and the legal aspects of cyber security.

Course Objective:

To ensure students have and understanding of the many areas of Information/Cyber Security.

Student Learning Outcomes:

1. Student Learning Outcomes

A student successfully completing this course should demonstrate a firm understanding of the basics of Information Security, covering a wide range of topics as defined by the (ISC)² CISSP Objectives:

1.1 Security and Risk Management:

- 1.1.1 Confidentiality, integrity, and availability concepts
- 1.1.2 Security governance principles
- 1.1.3 Compliance
- 1.1.4 Legal and regulatory issues
- 1.1.5 Professional ethic

- 1.1.6 Security policies, standards, procedures and guidelines
- 1.2 Asset Security:
 - 1.2.1 Information and asset classification
 - 1.2.2 Ownership (e.g. data owners, system owners)
 - 1.2.3 Protect privacy
 - 1.2.4 Appropriate retention
 - 1.2.5 Data security controls
 - 1.2.6 Handling requirements (e.g. markings, labels, storage)
- 1.3 Security Engineering:
 - 1.3.1 Engineering processes using secure design principles
 - 1.3.2 Security models fundamental concepts
 - 1.3.3 Security evaluation models
 - 1.3.4 Security capabilities of information systems
 - 1.3.5 Security architectures, designs, and solution elements vulnerabilities
 - 1.3.6 Web-based systems vulnerabilities
 - 1.3.7 Mobile systems vulnerabilities
 - 1.3.8 Embedded devices and cyber-physical systems vulnerabilities
 - 1.3.9 Cryptography
 - 1.3.10 Site and facility design secure principles
 - 1.3.11 Physical security
- 1.4 Communications and Network Security:
 - 1.4.1 Secure network architecture design (e.g. IP & non-IP protocols, segmentation)
 - 1.4.2 Secure network components
 - 1.4.3 Secure communication channels
 - 1.4.4 Network attacks
- 1.5 Identity and Access Management:
 - 1.5.1 Physical and logical assets control
 - 1.5.2 Identification and authentication of people and devices
 - 1.5.3 Identity as a service (e.g. cloud identity)
 - 1.5.4 Third-party identity services (e.g. on-premise)
 - 1.5.5 Access control attacks
 - 1.5.6 Identity and access provisioning lifecycle (e.g. provisioning review)
- 1.6 Security Assessment and Training:
 - 1.6.1 Assessment and test strategies
 - 1.6.2 Security process data (e.g. management and operational controls)
 - 1.6.3 Security control testing
 - 1.6.4 Test outputs (e.g. automated, manual)
 - 1.6.5 Security architectures vulnerabilities
- 1.7 Security Operations:
 - 1.7.1 Investigations support and requirements
 - 1.7.2 Logging and monitoring activities
 - 1.7.3 Provisioning of resources

- 1.7.4 Foundational security operations concepts
- 1.7.5 Resource protection techniques
- 1.7.6 Incident management
- 1.7.7 Preventative measures
- 1.7.8 Patch and vulnerability management
- 1.7.9 Change management processes
- 1.7.10 Recovery strategies
- 1.7.11 Disaster recovery processes and plans
- 1.7.12 Business continuity planning and exercises
- 1.7.13 Physical security
- 1.7.14 Personnel safety concerns
- 1.8 Software Development Security:
 - 1.8.1 Security in the software development lifecycle
 - 1.8.2 Development environment security controls
 - 1.8.3 Software security effectiveness
 - 1.8.4 Acquired software security impact.

Required Reading and Textbook(s):

Required Text: *CISSP (ISC)² Certified Information Systems Security Professional, 8th Ed.*

James Michael Stewart, Mike Chapple

ISBN: 9781119475934

Recommended Text: *CISSP (ISC)² Official Practice Tests, 2nd Ed.*

Mike Chapple, David Seidl

ISBN 9781119475927

NOTE: You can also purchase a Combo Pack with BOTH books using ISBN: 9781119523260 (from online retailers – I don't think the campus bookstore has the combo pack...)

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.

COURSE REQUIREMENTS

1. **Reading Assignments:** All assigned chapters will be used as basis for class and/or blackboard discussions. Study the assigned readings before each class.
2. **Attendance/Participation Policy:** Class attendance is required. The policy as officially stated by the University will be enforced. Students are expected to make arrangements with the instructor before missing a series of classes due to job requirements. Students are responsible for any material missed during an absence. In all cases, the responsibility

remains with the students to meet/obtain all course requirements/changes. If you are not present the class period your presentation is scheduled, the presentation grade is zero. Regular course progress is expected. It is each student's responsibility to review Canvas and the syllabus for the latest information, assignments and examinations.

NOTE: Attendance will be taken each class period. Attendance will count as 10% (100 Points) of your total grade. NOTE: Canvas Discussion questions (if any) will count toward participation.

2. **Homework:** There will be homework in the form of chapter quizzes after each chapter. The top 15 quizzes (out of 21) will count for 10% (100 points) of your grade.
3. **Examinations:** There will be two exams. The "mid-term" will be after we cover the first 4 domains (Chapters 1-12) and the final will cover the other 4 domains (Chapters 13-21). Each exam will count 250 points (25%)
4. **Term Research Paper:** Each Student will be required to write a Research Paper. In the required paper, students will select and explore a current topic/trend in Information Security related to a specific industry. It will consist of at least five double spaced pages (not including title page, table of contents, bibliography, appendixes, etc.) in length with 1" margins formatted in APA style. This is a professional paper – do not use informal language. Do not over quote your references, instead summarize what they say in your own words, and provide reference to the article. **Every claim you make in the paper should have a peer-reviewed academic reference.** Wikipedia is NOT academic and should not be used unless it is unavoidable. The paper must be submitted in MS Word format (.rtf, .doc, .docx). More information about the paper will be distributed by the 4th week of class. There will be three preliminary deliverables worth 20 points each. A presentation will be worth 60 points and the final paper will be worth the remaining 180. (total: 300pts or 30%).

NOTE: I take a hard line on plagiarism. Plagiarism will not be tolerated. Any paper containing plagiarism will be given a score of 0 and the student will be referred to Student Affairs for Academic Integrity Violation.

5. **Late Submissions:** Homework Assignments will be considered late if submitted after the due date/time. A late penalty of 5% per DAY (max of 20% deduction per week) will be applied. That means that NO submissions will be accepted if submitted more than 5 weeks after the due date. In addition, discussions (if any) MUST be completed within the week during which the discussion is assigned (i.e. **late discussions will NOT be allowed**). **Late tests will NOT be accepted!**
NOTE: **NO** work will be accepted after 5/9/2019.

Grading Criteria Rubric and Conversion

Assignment	Points	Percent	My Grade
Research Paper	300	30%	
Mid-Term	250	25%	
Final Exam	250	25%	
Homework quizzes	100	10%	
Participation	100	10%	
Total	1000	100%	

Percentage	Points	Grade
90.0-100%	900-1000	A
80.0-89.9%	800-899	B
70.0-79.9%	700-799	C
60.0-69.9%	600-699	D
0-59.9%	0-599	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 *should* be posted (no guarantees) within 7 days following the due date.

Canvas Grade Book has weighted columns for each of the groups of assignments (Homework, Hands-On, Research Paper, Group Project, Exam, and Participation) as well as a weighted column for the entire course. These columns put 0's for all incomplete assignments, so they all start at 0% and go up as you submit assignments. So, at any given time, you can see what your grade would be if you did no additional work.

COURSE OUTLINE AND CALENDAR

Complete Course Calendar

Week	Class Date	Chapter(s)	Assignment(s) Due at beginning of next class
1	17-Jan	Syllabus/Introductions Chapter 1	Get Books, Introduction Discussion, Syllabus Acknowledgement, Chapter 1 Quiz
2	24-Jan	Chapters 2-3	Chapters 2-3 Quizzes; Term paper topic selection discussion
3	31-Jan	Chapters 4-5	Chapters 4-5 Quizzes
4	7-Feb	Chapters 6-7	Chapters 6-7 Quizzes; Term paper proposal
5	14-Feb	Chapter 8-9	Chapters 8-9 Quizzes
6	21-Feb	Chapter 10-11	Chapters 10-11 Quizzes
7	28-Feb	Chapters 12-13	Chapters 12-13 Quizzes; Term paper outline
8	7-Mar	Mid Term Exam	Mid Term Due 3/21/19
	14-Mar	Information Only	Spring Break
9	21-Mar	Chapters 14-15	Chapters 14-15 Quizzes
10	28-Mar	Chapters 16-17	Chapters 16-17 Quizzes
11	4-Apr	Chapters 18-19	Chapters 18-19 Quizzes; Term Paper rough draft
12	11-Apr	Chapters 20-21	Chapters 20-21 Quizzes

13	18-Apr	Catch-Up Day (if needed)	Online Class Discussion if no Lecture
14	25-Apr	Paper Presentations	Final Paper due 5/9
15	2-May	Paper Presentations	
16	9-May	Final Exam	Final Exam Due 5/9/19

Important University Dates:

Please refer to the online TAMUCT calendar found [here](https://www.tamuct.edu/registrar/academic-calendar-18-19.html#spring2019) (https://www.tamuct.edu/registrar/academic-calendar-18-19.html#spring2019)

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/] 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.

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.

For more [information regarding the Student Conduct process](https://tamuct.campuslabs.com/engage/organization/tamuct-student-conduct-panel),
[https://tamuct.campuslabs.com/engage/organization/tamuct-student-conduct-panel].
If you know of potential honor violations by other students, you may [submit a report](https://cm.maxient.com/reportingform.php?TAMUCentralTexas&layout_id=0),
[https://cm.maxient.com/reportingform.php?TAMUCentralTexas&layout_id=0].

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 Office 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 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](https://www.tamuct.edu/student-affairs/access-inclusion.html) web page
[https://www.tamuct.edu/student-affairs/access-inclusion.html].

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 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 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 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 Warrior Hall 416, the University Writing Center (UWC) at Texas A&M University—Central Texas (TAMUCT) is a free workspace open to all TAMUCT students from 10:00 a.m.-5:00 p.m. Monday thru Thursday with satellite hours in the University Library Monday thru Thursday from 6:00-9:00 p.m. This semester, the UWC is also offering online only hours from 12:00-3:00 p.m. on Saturdays.

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-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 [WCOOnline](#). In addition, you can email Dr. Bruce Bowles Jr. at bruce.bowles@tamuct.edu if you have any questions about the UWC and/or need any assistance with scheduling.

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].

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 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.

1. Instructor reserves the right to modify the syllabus during the course of the 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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