

## CIS 4385 - INFORMATION SECURITY SYSTEMS

CIS 4385 – Spring 2021 (CRN = 24506)

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### Course Information: What this class is about and what we will do

#### Course Description

Information systems must be protected from hackers and crackers trying to break into the systems and immobilize e-businesses and other sites using, for example, denial of service attacks. Electronic business transactions and other forms of online communications necessitated the need for security, integrity, and privacy of our data and communication resources. Increasingly, both internal and external computer and network threats motivate the need for implementing cost-effective security apparatuses to protect our information and information systems assets. The course introduces students to the theory and practice of security, aspects of information systems security such as access control, hacks and attacks, systems and program intrusion detection, cryptography, networks and distributed systems security, worms and viruses, and internal secure applications. Students explore key security threats, solutions and legal issues, and implement network security tools in hands-on lab exercises. Upon completion, the student will have a better understanding of computer and network security issues.

#### Course Objectives

In this course, student will systematically study the fundamental principles of computer system security, including authentication, access control, capability, security policies, sandbox, software vulnerabilities, and web security. The course emphasizes "learning by doing" and requires students to conduct a series of lab exercises. Through these labs, students can enhance their understanding of the principles, and be able to apply those principles to solve real problems. After completion of the course, students should be able to possess the following skills:

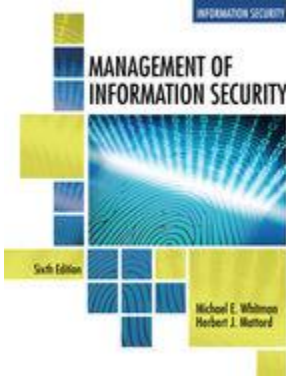
- assess the current security landscape, including the nature of the threat, the general status of common vulnerabilities, and the likely consequences of security failures;
- critique and assess the strengths and weaknesses of general cybersecurity models, including the CIA triad;
- appraise the interrelationships among elements that comprise a modern security system, including hardware, software, policies, and people;
- assess how all domains of security interact to achieve effective system-wide security at the enterprise level.
- compare the interrelationships among security roles and responsibilities in a modern information-driven enterprise—to include interrelationships across security domains (IT, physical, classification, personnel, and so on);
- assess the role of strategy and policy in determining the success of information security;
- estimate the possible consequences of misaligning enterprise strategy, security policy, and security plans;
- evaluate the principles of risk and conduct a notional risk management exercise;
- justify the need for business continuity planning and propose how to implement such a plan successfully within a modern enterprise.

## Text/Materials

Text: Management of Information Security, **6th Edition, 2019**, by Michael E. Whitman and Herbert J. Mattord; Cengage Learning, 2019.

ISBN-10: 1-337-40571-X

ISBN-13: 978-1-337-40571-3



## Teaching Methods

1. Lectures: Important material from the textbook and Powerpoint
2. Discussion board topics and responding to posted discussion
3. Assignments: End of chapter review questions (RQ).
4. Exams: Six learning assessments (Exams) will be given

## Learning Modules

This course is designed using a modular format—that is, each two-week is “packaged” as a single module so that all the materials, lecture notes, submission areas, discussion posts are in one area for a given two-week period. There are six modules in total.

## Attendance Policy

Because this is an online course, attendance is determined by class participation online. Participation is determined by completion of the following activities:

- Discussion with your peers on the Discussion Boards (grading rubric provided in the “grading information” area of each forum)
- Completing all Module Activities (assignments, quizzes, etc.)
- Completing all Major Assignments and the 6 Exams
- Case Study Analysis

## Technology Requirements

Course content is delivered via the Internet through the Blackboard learning management system. Ensure your UTEP e-mail account is working and that you have access to the Web and a stable web browser. Google Chrome and Mozilla Firefox are the best browsers for Blackboard; other browsers may cause complications. When having technical difficulties, update your browser, clear your cache, or try switching to another browser.

You will need to have access to a computer/laptop, scanner, a webcam, and a microphone. You will need to download or update the following software: Microsoft Office, Adobe Acrobat Reader, Windows Media Player, QuickTime, and Java. Check that your computer hardware and software are up-to-date and able to access all parts of the course.

If you do not have a word-processing software, you can download Word and other Microsoft Office programs (including Excel, PowerPoint, Outlook and more) for free via UTEP's Microsoft Office Portal. Click the following link for more information about [Microsoft Office 365](#) and follow the instructions.

**IMPORTANT:** If you encounter technical difficulties beyond your scope of troubleshooting, please contact the UTEP [Help Desk](#) as they are trained specifically in assisting with technological needs of students. Please do not contact me for this type of assistance. The Help Desk is much better equipped than I am to assist you!

### **COURSE ASSIGNMENTS AND GRADING**

Grades are not given; they are **EARNED**. Your grade will be based on results rather than on effort—your performance is an indicator of your ability to master the topic. Decide to work **NOW** for the grade you want. Students who keep up with the materials, do all of the assignments, and participate in the learning experiences typically do well.

Your grade will be based on the total number of points that you earn for each assignment group. The weight associated with each of the graded areas, and the total points required to earn the various grades, are shown below.

Assignment Group	Weight
<b>Discussion Boards &amp; Rethreads (6 * 6)</b>	36%
<b>Learning Assessments (9 * 6 Exams)</b>	54%
<b>Case Study Analysis</b>	10%
<b>Total</b>	<b>100%</b>

You will be able to check the status of your grade at any point during the semester by accessing 'My Grades' section of the BLACKBOARD classroom.

### **Discussion Boards (DB)**

Participants are expected to complete all modules and the discussion boards, quizzes and activities within. Activities explored in this course:

For discussion board you are required to write at about 300-350 words in your post in response to the provided guiding questions. You also have to reply (at least 100 words for each response) to the entries of at least one of your colleagues for each assigned discussion. Refer to the discussion board and course content for further details on each assignment. The deadline for postings is 11:59 pm MST every other Wednesday. Replies to colleagues are due by 11:59 pm MST every other Sunday. In your discussion posts you have to follow strictly the instructions for each topic and address the right topic/issue of the discussion in order to get a good grade.

### **Exams (aka learning assessment)**

There will be six exams or learning assessments (LA) in all. Each will comprise of two-three chapters from the textbook. All questions will be multiple choice and true/false. You have to take the exams during the provided window of time since late work are not allowed.

## Case Study:

Students will work in teams to analyze a case study based on the concepts, tools, and approaches covered in the course. Each team will be assigned a case study and a detailed guideline on how to analyze it. Grade for case study analysis will be based in part on the quality of your recommended solution to the identified problems. Your recommended solution must come from the approaches, concepts and/or tools covered in the course.

Your grade will be calculated using the following scale:

Grade	Level of Work	Percentage Range
A	Excellent, distinguished	90 – 100%
B	Very good, above average	80 – 89%
C	Average, Normal	70 – 79%
D	Below Average	60 - 69%
F	Failing	<60%

A grade of "I" (**Incomplete**) will be assigned only in circumstances in agreement with the current UTEP Undergraduate Catalog.

## COURSE COMMUNICATION: HOW WE WILL STAY IN CONTACT WITH EACH OTHER

Because this is an online class, we won't see each other in the ways you may be accustomed to: during class time, small group meetings, and office hours. However, there are a number of ways we can keep the communication channels open:

- Office Hours: We will not be able to meet on campus, but I will still have office hours for your questions and comments about the course. My office hours will be held on Blackboard Collaborate using this link: [\[insert link\]](#) and during the following times:  
Tuesdays: 10-11:30 a.m. Mountain Time  
Thursdays: 4-5:30 p.m. Mountain Time
- Email: UTEP e-mail is the best way to contact me. I will make every attempt to respond to your e-mail within 24-48 hours of receipt. When e-mailing me, be sure to email from your UTEP student account and please put the course number in the subject line. In the body of your e-mail, clearly state your question. At the end of your e-mail, be sure to put your first and last name, and your university identification number.
- Discussion Board: If you have a question that you believe other students may also have, please post it in the Help Board of the discussion boards inside of Blackboard. Please respond to other students' questions if you have a helpful response.
- Announcements: Check the Blackboard announcements frequently for any updates, deadlines, or other important messages.

## **NETIQUETTE**

As we know, sometimes communication online can be challenging. It's possible to miscommunicate what we mean or to misunderstand what our classmates mean given the lack of body language and immediate feedback. Therefore, please keep these netiquette (network etiquette) guidelines in mind. Failure to observe them may result in disciplinary action.

- Always consider audience. This is a college-level course; therefore, all communication should reflect polite consideration of other's ideas.
- Respect and courtesy must be provided to classmates and to the instructor at all times. No harassment or inappropriate postings will be tolerated.
- When reacting to someone else's message, address the ideas, not the person. Post only what anyone would comfortably state in a face-to-face situation.
- Blackboard is not a public internet venue; all postings to it should be considered private and confidential. Whatever is posted on in these online spaces is intended for classmates and professor only. Please do not copy documents and paste them to a publicly accessible website, blog, or other space.

## **EXCUSED ABSENCES AND/OR COURSE DROP POLICY**

According to UTEP Curriculum and Classroom Policies, "When, in the judgment of the instructor, a student has been absent to such a degree as to impair his or her status relative to credit for the course, the instructor may drop the student from the class with a grade of "W" before the course drop deadline and with a grade of "F" after the course drop deadline." See academic regulations in the UTEP Undergraduate Catalog for a list of excuse absences. Therefore, if I find that, due to non-performance in the course, you are at risk of failing, I will drop you from the course. I will provide 24 hours advance notice via email.

## **BLACKBOARD COLLABORATE SESSIONS**

This class requires that you participate in scheduled Blackboard Collaborate sessions. The purpose of these sessions is for you to view live demonstrations of the course material and/or to participate in small discussion groups with your classmates. The dates and times of these sessions will be announced several days in advance.

## **MAKE-UP WORK**

Make-up work will be given only in the case of a documented emergency. Note that make-up work may be in a different format than the original work, may require more intensive preparation, and may be graded with penalty points. If you miss an assignment and the reason is not considered excusable, you will receive a zero. It is therefore important to reach out to me—in advance if at all possible—and explain with proper documentation why you missed a given course requirement. Once a deadline has been established for make-up work, no further extensions or exceptions will be granted.

## **ALTERNATIVE MEANS OF SUBMITTING WORK IN CASE OF TECHNICAL ISSUES**

I strongly suggest that you submit your work with plenty of time to spare in the event that you have a technical issue with the course website, network, and/or your computer. I also suggest you save all your work (answers to discussion points, quizzes, exams, and essays) in a separate Word document as a back-up. This way, you will have evidence that you completed the work and will not lose credit. If you are experiencing difficulties submitting your work through the course website, please contact the UTEP Help Desk. You can email me your back-up document as a last resort.

## INCOMPLETE GRADE POLICY

Incomplete grades may be requested only in exceptional circumstances after you have completed at least half of the course requirements. Talk to me immediately if you believe an incomplete is warranted. If granted, we will establish a contract of work to be completed with deadlines.

## ACCOMMODATIONS POLICY

The University is committed to providing reasonable accommodations and auxiliary services to students, staff, faculty, job applicants, applicants for admissions, and other beneficiaries of University programs, services and activities with documented disabilities in order to provide them with equal opportunities to participate in programs, services, and activities in compliance with sections 503 and 504 of the Rehabilitation Act of 1973, as amended, and the Americans with Disabilities Act (ADA) of 1990 and the Americans with Disabilities Act Amendments Act (ADAAA) of 2008. Reasonable accommodations will be made unless it is determined that doing so would cause undue hardship on the University. Students requesting an accommodation based on a disability must register with the UTEP [Center for Accommodations and Support Services \(CASS\)](#). Contact the Center for Accommodations and Support Services at 915-747- 5148, or email them at [cass@utep.edu](mailto:cass@utep.edu), or apply for accommodations online via the [CASS](#) portal.

## SCHOLASTIC INTEGRITY

Academic dishonesty is prohibited and is considered a violation of the UTEP Handbook of Operating Procedures. It includes, but is not limited to, cheating, plagiarism, and collusion. Cheating may involve copying from or providing information to another student, possessing unauthorized materials during a test, or falsifying research data on laboratory reports. Plagiarism occurs when someone intentionally or knowingly represents the words or ideas of another as ones' own. Collusion involves collaborating with another person to commit any academically dishonest act. Any act of academic dishonesty attempted by a UTEP student is unacceptable and will not be tolerated. All suspected violations of academic integrity at The University of Texas at El Paso must be reported to the Office of Student Conduct and Conflict Resolution (OSCCR) for possible disciplinary action. To learn more, please visit [HOOP: Student Conduct and Discipline](#).

## DROP POLICY

You can drop this class by contacting the Registrar's Office to initiate the drop process. If you cannot complete this course for whatever reason, please contact me. If you do not, you are at risk of receiving an "F " for the course. A grade of "W" can be assigned after the deadline (**April 01, 2021**) only under exceptional circumstances, and only with the approval of the instructor and the academic dean. In such a case, the student must petition for the "W" in writing and provide the necessary supporting documentation.

## TEST PROCTORING SOFTWARE

All the exams will make use of Respondus Lock Down Browser inside of Blackboard to promote academic integrity. You are encouraged to learn more about how to use these programs prior to the first test.

Please review the following guidelines:

- The assessments will only be available at the times identified on the course calendar.
- You may take the test at any time during the 24-hour window.
- A reliable Internet connection is essential to completing the exam. If you must go to a location to take the exam (such as the library), be sure to follow their health and safety requirements.

- You have 2 attempts to take the test. Once the window closes, your answers will be saved, and no changes can be made. The higher score will be recorded.
- Respondus Lockdown Browser will require that all internet tabs are closed prior to the start of the test.
- You should not have conversations with other people and/or leave and return to the area during the test.

### **PLAGIARISM DETECTING SOFTWARE**

Some of your course work and assessments may be submitted to SafeAssign, a plagiarism detecting software. SafeAssign is used to review assignment submissions for originality and will help you learn how to properly attribute sources rather than paraphrase.

### **COPYRIGHT STATEMENT FOR COURSE MATERIALS**

All materials used in this course are protected by copyright law. The course materials are only for the use of students currently enrolled in this course and only for the purpose of this course. They may not be further disseminated.

### **COVID-19 PRECAUTIONS**

You must **STAY AT HOME** and **REPORT** if you (1) have been diagnosed with COVID-19, (2) are experiencing COVID-19 symptoms, or (3) have had recent contact with a person who has received a positive coronavirus test. Reports should be made at [screening.utep.edu](http://screening.utep.edu). If you know of anyone who should report any of these three criteria, you should encourage them to report. If the individual cannot report, you can report on their behalf by sending an email to [COVIDaction@utep.edu](mailto:COVIDaction@utep.edu).

For each day that you attend campus—for any reason—you must complete the questions on the UTEP screening website ([screening.utep.edu](http://screening.utep.edu)) prior to arriving on campus. The website will verify if you are permitted to come to campus. Under no circumstances should anyone come to class when feeling ill or exhibiting any of the known COVID-19 symptoms. If you are feeling unwell, please let me know as soon as possible, and alternative instruction will be provided.

Students are advised to minimize the number of encounters with others to avoid infection. Wear face coverings when in common areas of campus or when others are present. You must wear a face covering over your nose and mouth at all times in this class. If you choose not to wear a face covering, you may not enter the classroom. If you remove your face covering, you will be asked to put it on or leave the classroom. Students who refuse to wear a face covering and follow preventive COVID-19 guidelines will be dismissed from the class and will be subject to disciplinary action according to Section 1.2.3 Health and Safety and Section 1.2.2.5 Disruptions in the UTEP Handbook of Operating Procedures.

### **COVID-19 Accommodations**

Students are not permitted on campus when they have a positive COVID-19 test, exposure or symptoms. If you are not permitted on campus, you should contact me as soon as possible so we can arrange necessary and appropriate accommodations. (classes with on-campus meetings) Students who are considered high risk according to CDC guidelines and/or those who live with individuals who are considered high risk may contact [Center for Accommodations and Support Services](#) (CASS) to discuss temporary accommodations for on-campus courses and activities. Apply at [cassportal.utep.edu](http://cassportal.utep.edu) and fill out a three-question application. You will be scheduled to meet with disability coordinator to discuss your unique situation.

## Course Resources: Where you can go for assistance

UTEP provides a variety of student services and support:

### Technology Resources

- **Help Desk:** Students experiencing technological challenges (email, Blackboard, software, etc.) can submit a ticket to the UTEP Helpdesk for assistance. Contact the Helpdesk via phone, email, chat, website, or in person if on campus.

### Academic Resources

- **UTEP Library:** Access a wide range of resources including online, full-text access to thousands of journals and eBooks plus reference service and librarian assistance for enrolled students.
- **University Writing Center (UWC):** Submit papers here for assistance with writing style and formatting, ask a tutor for help and explore other writing resources.

### Individual Resources

- **Military Student Success Center:** Assists personnel in any branch of service to reach their educational goals.
- **Center for Accommodations and Support Services:** Assists students with ADA-related accommodations for coursework, housing, and internships.
- **Counseling and Psychological Services:** Provides a variety of counseling services including individual, couples, and group sessions as well as career and disability assessments.

## COURSE SCHEDULE

The instructor will endeavor to adhere to the course schedule below but does reserve the right to alter course content, class assignments and activities, and/or dates as deemed necessary.

Modules	Learning Unit	Discussion Board Topics
Course Introduction (01/19 – 01/24)	Course Information – Watch videos and take syllabus quiz.	State-of-the-art of cybersecurity
Module 1: (01/25 – 02/07)	Chapter 1: Introduction to Information Security	The 12 categories of threats to the company's information assets (02/03)   (02/07)
	Chapter 2: Compliance: Law and Ethics Exam 1 (02/05)	
Module 2: (02/08 – 02/21)	Chapter 3: Governance and Strategic Planning for Security	Analysis of UTEP information security policy (02/17)   (02/21)
	Chapter 4: Information Security Policy Exam 2 (02/19)	
Module 3: (02/22 – 03/07)	Chapter 6: Risk Management: Assessing Risk	Risk Management Process (03/03)   (30/07)
	Chapter 7: Risk Management: Treating Risk Exam 3 (03/05)	
Module 4: (03/08 – 04/04)	Chapter 5: Developing the Security Program	Building Effective Security Program (03/31)   (04/04)
	Chapter 8: Security Management Models	
	Chapter 9: Security Management Practices Exam 4 (04/04)	
Module 5: (04/05 – 04/18)	Chapter 10: Planning for Contingencies;	Security Response Planning (04/14)   (04/18)
	Chapter 11: Security Maintenance	



	Exam 5 (04/16)	
Module 6: (04/19 – 05/02)	Chapter 12: Protection Mechanisms	Which is Your Favorite Technology? (04/28)   (05/02)
	Exam 6 (04/30)	
Case Study (05/03 – 05/10)	Case Study Analysis and Presentations (05/10)	