

## MIS 5206 – Protection of Information Assets (3 Credit Hours) Summer 2023

### Instructor

David Lanter

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**Class Format:** Online

**Class Meetings:** June 3<sup>rd</sup> through June 9<sup>th</sup>, 8:00 AM through 12:00 PM Beijing Time

**Where:** <https://temple.zoom.us/j/93379903514?pwd=dmxSN3VXRmtnelprQUpHRTB0Q285Zz09>

**Class Website:** <https://community.mis.temple.edu/mis5206sec951summer2023/>

**Canvas:** <https://templeu.instructure.com/courses/127432>

### Course Description

In this course you will learn key concepts and components necessary for protecting the confidentiality, integrity and availability (CIA) of information assets. You will gain an understanding of the importance and key techniques for managing the security of information assets including logical, physical, and environmental security along with disaster recovery and business continuity.

The first half of the course, leading up to the mid-term exam, will focus on Information Security Risk Identification and Management. The second half of the class will cover the details of security threats and the mitigation strategies used to manage risk.

### Course Objectives

1. Gain an overview of the nature of information security vulnerabilities and threats
2. Learn how information security risks are identified, classified and prioritized
3. Develop an understanding of how information security risks are managed, mitigated and controlled
4. Gain experience working as part of team, developing and delivering a professional presentation
5. Gain insight into certification exams and improve your test taking skills

**Textbook and Readings**

<b>Textbook</b>	Computer and Information Security Handbook - Third Edition, 2017, John R. Vacca, Elsevier, Inc. ISBN: 978-0-12-803843-7 <a href="#">Available online via Temple University Libraries</a>
<b>ISACA</b>	ISACA Reading 1: <a href="#">ISACA Risk IT Framework</a>
	ISACA Reading 2: <a href="#">“Disaster Recovery and Business Continuity Planning: Testing an Organization's Plans”</a>
	ISACA Reading 3: <a href="#">“What Every IT Auditor Should Know About Backup and Recovery”</a> ,
<b>SANS</b>	SANS Reading 1: <a href="#">“The Importance of Security Awareness Training”</a>
	SANS Reading 2: <a href="#">“Making Security Awareness Work for You”</a>
	SANS Reading 3: <a href="#">“Implementing Robust Physical Security”</a>
	SANS Reading 4: <a href="#">“An Overview of Cryptographic Hash Functions and Their Uses”</a>
	SANS Reading 5: <a href="#">“The Risks Involved With Open and Closed Public Key Infrastructure”</a>
	SANS Reading 6: <a href="#">“Assessing Vendor Application Security A Practical Way to Begin”</a>
	SANS Reading 7: <a href="#">“Application Development Technology and Tools: Vulnerabilities and threat management with secure programming practices, a defense in-depth approach”</a>
<b>FIPS</b>	FIPS Reading 1: <a href="#">“Standards for Security Categorization of Federal Information and Information Systems”</a>
<b>NIST</b>	NIST Reading 1: <a href="#">“Framework for Improving Critical Infrastructure Cybersecurity”</a>
	NIST Reading 2: <a href="#">“Guide to Protecting the Confidentiality of Personally Identifiable Information (PII)”</a>
<b>FGDC</b>	FGDC Reading 1: <a href="#">“Guidelines for Providing Appropriate Access to Geospatial Data in Response to Security Concerns”</a>
<b>Harvard Business Publishing (HBP)</b>	2 case studies and 1 reading are available in the course pack for purchase from HBP: <a href="https://hbsp.harvard.edu/import/1053060">https://hbsp.harvard.edu/import/1053060</a> Case Study 1: “Snowfall and a Stolen Laptop” Case Study 2: “Autopsy of a Data Breach: The Target Case” HBR Reading 1: “The Myth of Secure Computing (HBR OnPoint Enhanced Edition)”
<b>Misc.</b>	Case Study 3: <a href="#">“A Hospital Catches the “Millennium Bug”</a>

## Schedule of class topics:

Unit #	Assignment Topics
0a	Video - Introduction to MIS5206
0b	Videos - Understanding an Organization's Risk Environment
1a	Case Study 1: <i>Snowfall and a stolen laptop</i>
1b	Data Classification Process and Models
2a	Risk Evaluation
2b	Case Study 2: <i>Autopsy of a Data Breach: The Target Case</i>
3a	Creating a Security Aware Organization
3b	Physical and Environmental Security
4a	<b>Midterm Exam</b>
4b	Case Study 3: <i>A Hospital Catches the "Millennium Bug"</i>
5a	Business Continuity and Disaster Recovery Planning
5b	Team Project Assignment
6a	Network Security
6b	Cryptography, Public Key Encryption and Digital Signatures
7a	Identity Management and Access Control
7b	Computer Application Security & Team Project Presentations
8	Team Project Presentations & Review
9	<b>Final Exam</b>

## Assignments

The readings, questions, and case study assignments will bring the real world into class discussion while illustrating fundamental concepts.

1. **Readings:** Below is the reading schedule you are responsible for completing. Complete each reading and answer reading discussion questions posted to the class website before the first class:

Unit #	Readings
0b	<ul style="list-style-type: none"> <li>• Vacca Chapter 1 "Information Security in the Modern Enterprise"</li> <li>• Vacca Chapter 2 "Building a Secure Organization"</li> <li>• NIST Reading 1: "Framework for Improving Critical Infrastructure Cybersecurity"</li> <li>• ISACA Risk IT Framework, pp. 1-42</li> </ul>
1a	<ul style="list-style-type: none"> <li>• Case Study 1: "Snowfall and a Stolen Laptop"</li> </ul>
1b	<ul style="list-style-type: none"> <li>• Vacca Chapter 24 "Information Security Essentials for IT Managers: Protecting Mission-Critical Systems"</li> <li>• FIPS Reading 1: "Standards for Security Categorization of Federal Information and Information Systems"</li> <li>• FGDC Reading 1: "Guidelines for Providing Appropriate Access to Geospatial Data in Response to Security Concerns"</li> </ul>
2a	<ul style="list-style-type: none"> <li>• Vacca Chapter 25 "Security Management Systems"</li> </ul>

	<ul style="list-style-type: none"> <li>• Vacca Chapter 34 “Risk Management”</li> <li>• ISACA Reading 1: “Risk IT Framework” pp. 47-96</li> </ul>
2b	<ul style="list-style-type: none"> <li>• Case Study 2: “Autopsy of a Data Breach: The Target Case”</li> </ul>
3a	<ul style="list-style-type: none"> <li>• Vacca Chapter 27 (online) “Information Technology Security Management”</li> <li>• Vacca Chapter 33 “Security Education, Training and Awareness”</li> <li>• SANS Reading 1: “The Importance of Security Awareness Training”</li> <li>• SANS Reading 2: “Making Security Awareness Work for You”</li> </ul>
3b	<ul style="list-style-type: none"> <li>• HBR Reading 1: “The Myth of Security Computing”</li> <li>• Vacca Chapter 69 “Physical Security Essentials”</li> <li>• SANS Reading 3: “Implementing Robust Physical Security”</li> </ul>
4b	<ul style="list-style-type: none"> <li>• Case Study 3: “A Hospital Catches the “Millennium Bug”</li> </ul>
5a	<ul style="list-style-type: none"> <li>• Vacca Chapter 61 (online) “SAN Security”</li> <li>• Vacca Chapter 62 “Storage Area Networking Security Devices”</li> <li>• Vacca Chapter 36 “Disaster Recovery”</li> <li>• Vacca Chapter 37 “Disaster Recovery Plans for Small and Medium businesses”</li> <li>• ISACA Reading 2: “Disaster Recovery and Business Continuity Planning: Testing an Organization’s Plans”</li> <li>• ISACA Reading 3: “What Every IT Auditor Should Know About Backup and Recovery”</li> </ul>
6a	<ul style="list-style-type: none"> <li>• Vacca Chapter 8 “Guarding Against Network Intrusions”</li> <li>• Vacca Chapter 13 “Internet Security”</li> <li>• Vacca Chapter 14 “The Botnet Problem”</li> <li>• Vacca Chapter 15 “Intranet Security”</li> <li>• Vacca Chapter 16 (online) “Local Area Network Security”</li> <li>• Vacca Chapter 72 “Intrusion Prevention and Detection Systems”</li> </ul>
6b	<ul style="list-style-type: none"> <li>• Vacca Chapter 46 (online) “Data Encryption”</li> <li>• Vacca Chapter 47 “Satellite Encryption”</li> <li>• Vacca Chapter 48 “Public Key Infrastructure”</li> <li>• Vacca Chapter 51 “Instant-Messaging Security”</li> <li>• SANS Reading 4: “An Overview of Cryptographic Hash Functions and Their Uses”</li> <li>• SANS Reading 5: “The Risks Involved With Open and Closed Public Key Infrastructure”</li> </ul>
7a	<ul style="list-style-type: none"> <li>• Vacca Chapter 71 “Online Identity and User Management Services”</li> <li>• Vacca Chapter 52 “Online Privacy”</li> <li>• Vacca Chapter 53 “Privacy-Enhancing Technologies”</li> <li>• Vacca Chapter 59 “Identity Theft – First Part”</li> <li>• Vacca Chapter 59 “Identity Theft – Second Part”</li> </ul>
7b	<ul style="list-style-type: none"> <li>• SANS Reading 6: “Assessing Vendor Application Security A Practical Way to Begin”</li> <li>• SANS Reading 7: “Application Development Technology and Tools: Vulnerabilities and threat management with secure programming practices, a defense in-depth approach”</li> </ul>

2. **Answer Questions:** Questions for each topical unit and Case Studies are available on the class website, under “QUESTIONS ABOUT THE READINGS AND CASE STUDIES. Post your answer to each of the questions on the course website as you work through the readings with the goal of completion before the first class. To do so, click “Leave a Comment”. Provide a paragraph or two of thoughtful analysis as your answer to each question. ***Late submissions of answers will result in lost credit for the assignment.***

Case study analysis will be conducted in three phases:

- i. Individual preparation is done by answering the case study questions. This will prepare you to contribute in group discussion meetings. It will prepare you to learn from what others say. To fully benefit from the interchange of ideas about a case’s problem, however, you must possess a good understanding of the facts of the case and have your own ideas. Studying the case, doing your homework and answering the questions readies you to react to what others say. This is how we learn.
- ii. Group discussions are informal sessions of give and take. Come with your own ideas and leave with better understanding. By pooling your insights with the group you advance your own analysis. Discussions within small groups is also helpful for those uncomfortable talking in large classes to express their views and gain feedback.
- iii. Class discussion advances learning from the case, but does not solve the case. Rather it helps develop your understanding why you need to gain more knowledge and learn concepts that provide the basis of your intellectual toolkit you develop in class and apply in practice.

Below is the schedule for the Case Studies:

Unit	Case Studies
1a	Case Study 1: <i>Snowfall and a stolen laptop</i>
2b	Case Study 2: <i>Autopsy of a Data Breach: The Target Case</i>
4b	Case Study 3: <i>A Hospital Catches the “Millennium Bug”</i>

Come to class prepared to discuss all of your answers to topical unit questions and case study questions in-detail.

## Participation

Your participation in class discussions is critical. Evaluation is based on you consistently demonstrating your thoughtful engagement with the material. Assessment is based on what you contribute. The frequency and quality of your contributions are equally important.

### Team Projects Presentation

During Unit #5b students will be organized into project teams. Each team will receive a topic, and will follow up by developing a presentation covering the assigned topic. During Unit #8 each team will have a total time of 15 minutes to present their topic, following by questions and answer (Q&A) session.

### Exams

There will be two exams given during the semester. Together these exams are weighted 25% of each student's final grade.

Below is the exam schedule:

Unit #	Exam
4a	Midterm Exam
9	Final Exam

Both exams will consist of multiple-choice questions. You will have a fixed time (e.g. 120 minutes) to complete the exam. The Midterm Exam will occur during Unit #3a and the Final Exam will occur after the last class.

A missed exam can only be made up in the case of documented and verifiable extreme emergency situation. No make-up is possible for the Final Exam.

### Quizzes

At the end of many class units I will provide you with a test taking tip followed by a practice quiz consisting of multiple choice questions modeled after the content of the CISA certification exam. Quizzes are for practice only. They will not count towards your final grade. You will be given time to answer the quiz, and then we will go over the answers to the quiz. The goals for the quizzes are twofold: 1) help you become familiar with technical information security areas requiring additional study and attention, and 2) help you gain skills that improve your test taking abilities.

## Evaluation and Grading

Item	Weight
Assignments	25%
Participation	25%
Team Project Presentation	25%
Exams	25%
	<b>100%</b>

Grading Scale			
94 – 100	A	73 – 76	C
90 – 93	A-	70 – 72	C-
87 – 89	B+	67 – 69	D+
83 – 86	B	63 – 66	D
80 – 82	B-	60 – 62	D-
77 – 79	C+	Below 60	F

## Grading Criteria

The following criteria are used for evaluating assignments. You can roughly translate a letter grade as the midpoint in the scale (for example, an A- equates to a 91.5).

Criteria	Grade
The assignment consistently exceeds expectations. It demonstrates originality of thought and creativity throughout. Beyond completing all of the required elements, new concepts and ideas are detailed that transcend general discussions along similar topic areas. There are no mechanical, grammatical, or organization issues that detract from the ideas.	A- or A
The assignment consistently meets expectations. It contains all the information prescribed for the assignment and demonstrates a command of the subject matter. There is sufficient detail to cover the subject completely but not too much as to be distracting. There may be some procedural issues, such as grammar or organizational challenges, but these do not significantly detract from the intended assignment goals.	B-, B, B+
The assignment fails to consistently meet expectations. That is, the assignment is complete but contains problems that detract from the intended goals. These issues may be relating to content detail, be grammatical, or be a general lack of clarity. Other problems might include not fully following assignment directions.	C-, C, C+
The assignment constantly fails to meet expectations. It is incomplete or in some other way consistently fails to demonstrate a firm grasp of the assigned material.	Below C-

## Late Assignment Policy

An assignment is considered late if it is turned in after the assignment deadlines stated above. No late assignments will be accepted without penalty unless arrangements for validated unusual or unforeseen situations have been made.

- The exercise assignments will be assessed a **50% penalty** for being late. No credit is given for assignments turned in over five calendar days past the due date.
- Plan ahead and backup your work. ***Equipment failure is not an acceptable reason for turning in an assignment late.***

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## University Policies

### TEMPLE AND COVID-19

Temple University's motto is Perseverance Conquers, and we will meet the challenges of the COVID pandemic with flexibility and resilience. The university has made plans for multiple eventualities. Working together as a community to deliver a meaningful learning experience is a responsibility we all share: we're in this together so we can be together.

The full university protocol for COVID-19 and the use of masks or cloth face coverings can be found at this link: <https://www.temple.edu/coronavirus>

### Attendance

To achieve course learning goals, students must attend and participate in classes, according to your instructors' requirements. If one or more classes are missed, it is the student's responsibility to contact their instructors to create a plan for participation and engagement in the course as soon as they are able to do so, and to make a plan to complete all assignments in a timely fashion, when illness delays their completion.

### Video Recording and Sharing Policy

Any recordings permitted in this class can only be used for the student's personal educational use. Students are not permitted to copy, publish, or redistribute audio or video recordings of any portion of the class session to individuals who are not students in the course or academic program without the express permission of the faculty member and of any students who are recorded. Distribution without permission may be a violation of educational privacy law, known as FERPA as well as certain copyright laws. Any recordings made by the instructor or university of this course are the property of Temple University. Any unauthorized redistribution of video content is subject to review by the Dean's office, and the University Disciplinary Committee. Penalties can include receiving an F in the course and possible expulsion from the university. This includes but is not limited to: assignment video submissions, faculty recorded lectures or reviews, class meetings (live or recorded), breakout session meetings, and more.

### Code of Conduct Statement for Online Classes Online Behavior

Students are expected to be respectful of one another and the instructor in online discussions. The goal is to foster a safe learning environment where students feel comfortable in discussing concepts and in applying them in class. If for any reason your behavior is viewed as disruptive to the class, you will be asked to leave and you will be marked absent from that class. Please read the university policy concerning disruptive behavior:

***The disruptive student is one who persistently makes inordinate demands for time and attention from faculty and staff, habitually interferes with the learning environment by disruptive verbal or behavioral expressions, verbally threatens or abuses college personnel, willfully damages college property, misuses drugs or alcohol on college premises, or physically threatens or assaults others. The result is the disruption of academic, administrative, social, or recreational activities on campus.***

### Online Classroom Etiquette

The expectation is that students attending online courses will behave in the same manner as

if they were in a live classroom. Be courteous and professional in your location, attire and behavior. Specifically, your location should reflect a clean and professional appearance - not a bedroom, crowded conference room, loud restaurant/bar, etc. Your attire should mirror what you might wear to a live classroom. We expect that students will not disrupt class through visuals or verbal outbursts, such as but not limited to, conversations with other people in the room, engaging in inappropriate behavior while you are in class or distracting the class in any other way. In addition, students should refrain from doing something in their online class that they would not do in a live classroom. which includes eating large meals, drinking alcohol, vaping, getting up often and leaving the online class (not staying at their computer). You should arrive on time and leave when the class is over. If there is an emergency of some kind, notify your faculty member via email or the chat function in Zoom.

### **Student and Faculty Academic Rights & Responsibilities**

Freedom to teach and freedom to learn are inseparable facets of academic freedom. The University has a policy on Student and Faculty Academic Rights and Responsibilities (Policy #03.70.02) which can be accessed at [policies.temple.edu](http://policies.temple.edu).

### **Inclement Weather Policy**

Please be advised that while Temple University campuses may close for inclement weather, online courses are not on-campus and therefore are still expected to meet. Your instructor will contact you regarding any adjustments needed in the event of a power outage or severe circumstances. Should you have any questions, please contact the professor.

### **Academic Honesty**

Temple University believes strongly in academic honesty and integrity. Plagiarism and academic cheating are, therefore, prohibited. Essential to intellectual growth is the development of independent thought and a respect for the thoughts of others. The prohibition against plagiarism and cheating is intended to foster this independence and respect.

Plagiarism is the unacknowledged use of another person's labor, another person's ideas, another person's words, another person's assistance. Normally, all work done for courses -- papers, examinations, homework exercises, laboratory reports, oral presentations -- is expected to be the individual effort of the student presenting the work. Any assistance must be reported to the instructor. If the work has entailed consulting other resources -- journals, books, or other media -- these resources must be cited in a manner appropriate to the course. It is the instructor's responsibility to indicate the appropriate manner of citation. Everything used from other sources -- suggestions for organization of ideas, ideas themselves, or actual language -- must be cited. Failure to cite borrowed material constitutes plagiarism. Undocumented use of materials from the World Wide Web is plagiarism.

Academic cheating is, generally, the thwarting or breaking of the general rules of academic work or the specific rules of the individual courses. It includes falsifying data; submitting, without the instructor's approval, work in one course which was done for another; helping others to plagiarize or cheat from one's own or another's work; or actually doing the work of another person.

The penalty for academic dishonesty can vary from receiving a reprimand and a failing grade for a particular assignment, to a failing grade in the course, to suspension or expulsion from the University. The penalty varies with the nature of the offense, the individual instructor, the department, and the school or college.

Students who believe that they have been unfairly accused may appeal through the School or College's academic grievance procedure. See Grievances under Student Rights in this section.

Source: <http://bulletin.temple.edu/undergraduate/about-temple-university/student-responsibilities/#academichonesty>

### **Turnitin Canvas Plagiarism Framework**

All major written assignments and presentations will be automatically submitted to Turnitin within Canvas for originality. Turnitin detects word patterns that are identical to those in other digitally available work, which includes, peer-reviewed papers, blogs, newspaper articles, and previously submitted student work. Any identical wording between deliverables and that of any other work submitted digitally can be detected easily – if a quote is not appropriately marked and sourced, it constitutes as plagiarism.

### **Disability Statement**

Any student who has need of accommodation based on the impact of a disability should contact the instructor privately to discuss the specific situation as soon as possible. Contact Temple University's Disability Resources and Services (DRS) office at (215)204-1280 located in the Howard Gittis Student Center South, 4th Floor to coordinate accommodations for students with documented disabilities. Please contact the instructor and the DRS within the first week of class, at the beginning of the semester. DRS will establish a student's needs and make necessary arrangements with faculty. If the student chooses not to contact DRS, he/she will be unable to receive accommodations retroactively, once exams are completed and/or course grades are submitted. Such decisions are made jointly between the DRS office and the instructor, at their discretion based on circumstances. Accommodation letters must be received by the instructor during the first two weeks of the semester.

### **Student Support Services**

The following academic support services are available to support you:

- Student Success Center - <https://studentsuccess.temple.edu/>
- Online Tutoring - <http://www.temple.edu/class/programs/writing/tutoring.html>
- Business Communication Center - [foxbcc@temple.edu](mailto:foxbcc@temple.edu) and <https://www.fox.temple.edu/institutes-centers/bcc/>
- Writing Center - <https://www.cla.temple.edu/wconline/>
- University Libraries - <https://library.temple.edu/webpages/remote-learner-support>
- Career Center - <https://www.temple.edu/life-at-temple/students/careers-and-internships/career-center>)
- Tuttleman Counseling Services - <https://counseling.temple.edu/access-services>
- Disability Resources and Services - <https://disabilityresources.temple.edu/>

If you are experiencing food insecurity or financial struggles, Temple provides resources and support. Notably, the Temple University Cherry Pantry (<https://studentcenter.temple.edu/cherry-pantry>) and the Temple University Emergency Student Aid Program (<https://careteam.temple.edu/emergency-student-aid-0>) are in operation as well as a variety of resources from the Office of Student Affairs (<https://studentaffairs.temple.edu/>).