# Fox School of Business
## TEMPLE UNIVERSITY

# MIS 4596 – Managing Enterprise Cybersecurity – Spring 2021
## Section 002 – CRN 6642 – Wednesdays 5:30 – 8:00 PM
## Section 004 – CRN 39666 – Mondays 5:30 – 8:00 PM

*As of January 14, 2020, subject to change*

## Instructor

- **Dr. Min-Seok Pang** (Ph.D., University of Michigan)
- Associate Professor of Management Information Systems
- Speakman Hall 201A
- minspang@temple.edu, 215-204-3059
- LinkedIn – https://www.linkedin.com/in/minspang/ (Please connect!)
- Office Hours – available anytime at Microsoft Teams

## Information Technology Assistant

- Daniel McShane (tuh34432@temple.edu)
- Sam (Samprateek) Sinha (tuh33517@temple.edu)

## Course Textbook and Materials

- "Security Engineering: A Guide to Building Dependable Distributed Systems, 3$^{rd}$ Edition" by Ross Anderson
- Harvard Business Coursepack for MIS 4596 – available for purchase at Harvard Business Publishing site (https://hbsp.harvard.edu/import/787391)
- Other materials will be available throughout the semester.
- (Optional) "Secrets and Lies: Digital Security in a Networked World," by Bruce Schneier
  - Temple Library : https://onlinelibrary-wiley-com.libproxy.temple.edu/doi/book/10.1002/9781119183631
  - Amazon.com : https://www.amazon.com/dp/0471453803/

## Class Sites (for Both Section 002 and 004)

- **at MIS Community** - https://community.mis.temple.edu/mis4596sec004spring2021
- **at Canvas** - https://templeu.instructure.com/courses/88698

## 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.

## Course Objective

This course is a broad introduction to the managerial issues of information security. Because security is multifaceted, the topics of the class range widely, including technical (e.g., cryptography), managerial (e.g., policy compliance), physical (e.g., door locks), and psychological (e.g., social engineering) issues. A key objective of the class is to develop a security mindset, in which one learns to think like an attacker for ways to exploit a system.

## Course Learning Goals

Develop a security mindset

- Learn to think like a security professional—how to identify threats like an attacker, and how to model and mitigate those threats.

Gain a working knowledge of methods to protect data

- Gain a working knowledge of modern methods of protecting data: encryption, hashing, confidentiality, authentication, integrity, non-repudiation, certificates, and IP security.

Learn methods of attack and defense

- Learn methods of attacking systems and how to protect against those methods of attacks.

Appreciate the broad disciplines required for IS security

- Appreciate the broad disciplines required for information security to work. We'll cover subjects as diverse as cryptology, physical security, psychology, and management.

## Method of Instruction

This BBA course is a synchronous course meeting live virtually once a week. Virtual classes meet using Zoom. This course has been rigorously designed to help students effectively reach the course objectives through various deliverables. Attention to the course schedule and the suggested order of assignment completion is key to success. It is incumbent upon the students to work through all materials provided, attend all sessions, and ask questions as they come up to ensure successful completion of all deliverables in a timely fashion.

## Technology Requirements

Google Cloud Platform (GCP)

This course uses GCP to run tools and virtual machines necessary to complete assignments. New accounts on GCP receive a $300 credit. Students should be able to complete this class without going over that cost. The instructor will have the students launch a virtual machine instance on GCP from which you can complete class assignments. The students will be able to remotely connect to the instance using Chrome Remote Desktop, which works just like a browser tab.

Zoom

This course will meet once a week using Zoom. It is downloaded to a computer the first time it is used and does require regular updates.

- Please download the latest version of Zoom from https://zoom.us/support/download and open the downloaded file to install the app by January 19. The instructions on updating to the latest

version are available at https://foxonline.temple.edu/foxtutorials/updating-a-zoom-desktop-client/.
- Logging with a Temple credential via TUportal will be required.
- Make sure to enter official first and last names correctly when signing into a Zoom session.
- Please log into the classes by at least 5 minutes before the scheduled class time, as classes will begin promptly.
- Using Zoom through mobile phones should only be used in an emergency.

Microsoft Teams

Office hours will take place at MIS 4546 team at Microsoft Teams. It is free to install for all Temple University students. Students can use this for their group activities and collaboration.
- Join MIS 4546 team via https://teams.microsoft.com/l/team/19%3a3ff17754676a4d4bb29804f86c4bcfbe%40thread.tacv2/conversations?groupId=40d6da99-9dae-437e-99cd-e1a23d8f000a&tenantId=716e81ef-b522-4473-8e31-10bd02ccf6e5

Canvas

Canvas is the university's current Learning Management System (LMS).
- For resources and/or Canvas related questions or issues, please use the Help (?) feature in the Canvas Global Navigation for assistance via phone or a 24-hour Chat feature.
- Canvas guides for students: https://community.canvaslms.com/docs/DOC-10701

**Grading**

| Milestones | Group or Individual | 40% |
|---|---|---|
| Labs | Individual | 20% |
| Mid-Term Exam | Individual | 15% |
| Final Exam | Individual | 25% |
| **Total** | | **100%** |

Milestones

There are four milestone projects that will help students develop professional cybersecurity and communication skills.
- Milestone 1: Risk Assessment Draft (25 points)
- Milestone 2: Final Risk Assessment Report (25 points)
- Milestone 3: Penetration Test Report (100 points)
- Milestone 4: Penetration Test with Mitigation Report (100 points)
- These projects can be completed by individually or with a group of up to four. Students are free to form a group.
- The milestones will be graded in the same manner whether it is completed individually or by a group.

Labs

These are hands-on learning activities that will begin in class and completed outside of class.

- There are 12 labs. However, only the top 9 highest lab scores will be counted toward the lab grade. (In other words, students can skip up to three labs.)
- All labs are due by <u>11:59 PM on Thursday, May 6</u>. However, it is strongly encouraged to complete one lab a week throughout the semester. Some lab assignments are necessary to be completed prior to exams or milestones.

<u>Lab Peer Support</u>

Students are encouraged to help each other complete lab assignments. When a student offers help to another to complete one lab assignment, he/she will receive a <u>4% extra credit</u> to the lab assignment.

- For example, if Molly helps Michael for Lab #2, she will receive a 4% extra credit to her Lab #2 grade. If Molly is reported to help two students, she will receive an 8% extra credit.
- The one who receives help must submit the helper's name in Canvas submission. (In other words, Michael should report that he has received help from Molly.)
- A student can report help only from one student in one lab. (Michael cannot report help from both Molly and Stuart.)

<u>Mid-Term and Final Exams</u>

- The mid-term and final exams will be open-book and open-note exams over Canvas.
- The mid-term exam is due by March 6 (subject to change).
- The final exam is due by May 5 (subject to change). It is cumulative and covers the entire semester.

<u>Certification Option for the Exams</u>

- As an option, students seeking certification may replace both the mid-term and final exams by passing CompTIA Security+ certification (https://www.comptia.org/certifications/security) or other certification approved by the instructor.
- Students can substitute the score on the certification plus an adjustment (5% for the Security+) for the mid-term and final exams. For example, if a student receives an 85% on Security+, he/she receives 90% of the points for the two exams.
- To receive credit for the certification, the student must show evidence of having taken the certification exam by April 26.

**Grade Scale**

| | |
|---|---|
| 93% - 100% | A |
| 90% - 92.99% | A- |
| 87% - 89.99% | B+ |
| 83% - 86.99% | B |
| 80% - 82.99% | B- |
| 77% - 79.99% | C+ |
| 73% - 76.99% | C |
| 70% - 72.99% | C- |
| 67% - 69.99% | D+ |
| 63% - 66.99% | D |
| 60% - 62.99% | D- |

| < 59.99% | F |
|----------|---|

## Other Course Policies

- <u>Attendance and Participation</u> : Attendance and participation are a key component of learning experiences. It is strongly encouraged to read/review all post materials (readings, videos, or others) prior attendance and actively take part in all class discussions and activities. Missing classes will make it difficult to successfully complete the milestones, labs, and exams, leading to a lower final grade.
- <u>Late Assignment Submissions</u> : All assignments and projects are to be submitted on time or early. Late submissions are subject to a 10% deduction in points per 12 hours.
- <u>Email</u> : Use <u>@temple.edu</u> email account for all correspondents with the instructor. Email messages sent from a non-Temple account may not be responded. The instructor does not prefer using Canvas messaging.
- <u>Inclement Weather</u>: While Temple University campuses may close for inclement weather, online courses are not on-campus and therefore are still expected to meet. The instructor will contact the students regarding any adjustments needed in the event of a power outage or other severe circumstances.

## Schedule (subject to change)

| Week | Section 002 (Wednesdays) | Section 004 (Mondays) | Topics |
|------|--------------------------|-----------------------|--------|
| 1 | Jan 20 | Jan 26 | Introduction to the Course<br>Threat Modeling |
| 2 | Jan 27 | Feb 1 | Risk Assessment<br>Information Privacy |
| 3 | Feb 3 | Feb 8 | Introduction to Linux and Google Cloud Platform<br>Information Security in Organizations |
| 4 | Feb 10 | Feb 15 | Introduction to Cryptography<br>Symmetric Cryptography |
| 5 | Feb 17 | Feb 22 | Asymmetric Cryptography<br>Digital Certificates and Public Key Infrastructures |
| 6 | Feb 24 | Mar 1 | Authentication and Passwords<br>Password Cracking |
| 7 | Mar 3 | Mar 8 | Guest Speaker |
| 8 | Mar 10 | Mar 15 | Introduction to Networking<br>Vulnerability Scanning |
| 9 | Mar 17 | Mar 22 | Vulnerability Exploitation |
|  | Mar 24 |  | *Wellness Day – No Class* |
| 10 | Mar 31 | Mar 29 | Physical Security<br>Human Elements of Security |
| 11 | Apr 7 | Apr 5 | Network Security Monitoring<br>Incident Response |
| 12 | Apr 14 | Apr 12 | Response Case Study - Equifax<br>Malware Analysis |
| 13 | Apr 21 | Apr 19 | Recovery Case Study – Maersk |

| Apr 26 | *No Class* |
|---|---|

## Other Key Dates and Deadlines (subject to change)

| Wed, Jan 27 | Milestone 1 opens |
|---|---|
| Sat, Feb 13 | Deadline for Milestone 1 |
| Sat, Feb 27 | Deadline for Milestone 2 |
| Tue, Mar 2 | Mid-term exam opens |
| Sat, Mar 6 | Deadline for mid-term exam |
| Wed, Mar 17 | Milestone 3 opens |
| Sat, Apr 10 | Deadline for Milestone 3 |
| Thur, Apr 29 | Final exam opens |
| Sat, May 1 | Deadline for Milestone 4 |
| Wed, May 5 | Deadline for the final exam |
| Thur, May 6 | Deadline for completion of all lab assignments |
| Sat, May 8 | Instructor deadline for the final grade to the University |

All assignments and exams are due by 11:59 PM EST.

## Attendance Protocol and Your Health

If you feel unwell, you should not come to campus, and you will not be penalized for your absence. Instructors are required to ensure that attendance is recorded for each in-person or synchronous class session. The primary reason for documentation of attendance is to facilitate contact tracing, so that if a student or instructor with whom you have had close contact tests positive for COVID-19, the university can contact you. Recording of attendance will also provide an opportunity for outreach from student services and/or academic support units to support students should they become ill. Faculty and students agree to act in good faith and work with mutual flexibility. The expectation is that students will be honest in representing class attendance.

## Video Recording & 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 Behaviors

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. Our differences, some of which are outlined in the University's non-discrimination statement, will add richness to this learning experience. Therefore, all opinions and experiences, no matter how different or controversial they may be perceived, must be respected in the tolerant spirit of academic discourse.

Treat your classmates and instructor with respect in all communication, class activities, and meetings. You are encouraged to comment, question, or critique an idea but you are not to attack an individual. Please consider that sarcasm, humor and slang can be misconstrued in online interactions and generate unintended disruptions. Profanity should be avoided as should the use of all capital letters when composing responses in discussion threads, which can be construed as "shouting" online. Remember to be careful with your own and others' privacy. In general, have your behavior mirror how you would like to be treated by others.

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.

## Academic Integrity – ZERO TOLERANCE

Plagiarism and academic dishonesty can take many forms.  The most obvious is copying from another student's materials, but the following are also forms of this:

- Copying materials directly from the Internet (or another source) without a proper citation crediting the author
- Turning in an assignment from a previous semester as if it were your own

- Having someone else complete your assignment and submitting it as if it were your own
- Signing someone else's name to an attendance sign-in sheet
- Use of assignments completed in one class as any part of a project assigned in another class
- Sharing/copying homework assignments.
- Use of unauthorized notes during an examination
- In cases of cheating, both parties will be held equally responsible, i.e. both the student who shares the work and the student who copies the work.

There will be zero tolerance for blatant plagiarism or any other type of academic dishonesty. In particular, plagiarizing someone's work (be it a classmate's or on the Internet) is strictly prohibited. Under this zero tolerance policy, in any occurrence of academic cheating, a formal complaint will immediately be filed with the University Discipline Committee (UDC). This incident will be listed on the student's permanent academic record. The instructor will not discuss the penalty for violating this policy and simply direct the student to this paragraph in the class syllabus.

## 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 at 100 Ritter Annex 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 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/).