Fox School of Business
TEMPLE UNIVERSITY

MIS 4596 – Section 005 – Managing Enterprise Cybersecurity – Spring 2023
CRN 47879 – Tuesday 5:30 – 8:00 PM – Alter Hall 603

As of January 13, 2023 – 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 – Tue 4:30 - 5:30 PM and available anytime at Microsoft Teams

Information Technology Assistant

- Connor F. McShane
- connor.mcshane@temple.edu
- Office Hours (Zoom) – TBA

Course Textbook and Materials

- "Security Engineering: A Guide to Building Dependable Distributed Systems, 3rd Edition" by Ross Anderson – select chapters to be available at Canvas
- Harvard Business Coursepack for MIS 4596 – three required cases to purchase at Harvard Business Publishing site – https://hbsp.harvard.edu/import/1001970 ($18.5)
- Security Assignments by Dave Eargle and Anthony Vance at http://security-assignments.com/ ($50 for an access fee)
- Other materials will be available throughout the semester.

Class Sites

- **at Canvas** - https://templeu.instructure.com/courses/120575
- **at MIS Community** - https://community.mis.temple.edu/mis4596sec005spring2023/

Course Objective

This course is a broad introduction to the managerial issues of information security. Because cybersecurity 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 cybersecurity

- Appreciate the broad disciplines required for information security to work. We'll cover subjects as comprehensive as cryptology, physical security, psychology, and management, based on based on the NIST Cybersecurity Framework Version 1.1 (https://www.nist.gov/cyberframework/framework) and the NIST Risk Management Framework (https://csrc.nist.gov/projects/risk-management/about-rmf).

Communicate security risks and responses effectively in writing

- A substantial portion of the course will be devoted to practicing capable, proficient written communication of cybersecurity risks, threats, mitigations, and responses to relevant stakeholders for their decision making.

University-Designated Writing-Intensive (W) Course

This is a University-designated writing-intensive course, and by passing this course, students will fulfill the University requirement that "All undergraduate students must complete at least two writing-intensive courses for a total of at least six credits" (https://bulletin.temple.edu/undergraduate/academic-programs/writing-intensive-courses/).

As such, this course requires a substantial amount of writing for individual assignments throughout the semester. There is no group project in this class; all deliverables are individual assignments. There will be no mid-term and final exams.

Technology Requirements

Information Security Assignments

This course will use lab assignments and projects at http://security-assignments.com/, developed by Dave Eargle and Anthony Vance. Access to the resources in this site will require subscription with a $50 fee (https://security-assignments.com/store/).

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 for three months. Students should be able to complete this class without going over that cost. The instructor will have the students launch a Kali virtual machine instance on GCP from which they 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.

Microsoft Teams

Office hours will also take place 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 - https://teams.microsoft.com/l/channel/19%3aFFAQ3HZmgMH4bNKWL3xx8mI6-7kbpKlw_QNcH2hSZjc1%40thread.tacv2/General?groupId=924377f4-47a9-45ee-ad80-11d107d2181b&tenantId=716e81ef-b522-4473-8e31-10bd02ccf6e5

Canvas

Canvas is the University's learning management system (LMS).

- https://templeu.instructure.com/courses/120575
- 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

Lab Assignments	Individual	25%
Reading Summaries	Individual	15%
Discussion Briefs	Individual	15%
Projects	Individual	30%
In-Class Participation	Individual	15%
Total		**100%**

All assignments are to be completed on an individual basis. There is no group assignment.

Hand-on Labs (25%)

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

- There are 12 labs. However, only the top 10 highest lab scores will be counted toward the lab grade. (In other words, students can skip up to two labs.)
- Two deadlines : Saturday, Mar 4 (Lab 1-6) and Thursday, May 11 (Lab 7-12) 11:59 PM
- No late submission is to be accepted.
- Some lab assignments are necessary to be completed prior to certain projects.

Reading Summaries (15%)

Before each week's class, students are to summarize assigned or self-selected readings (news articles, textbook chapters, or Harvard Business School cases).

- Up to 150 words in each summary
- Due by 5:30 PM before the class on which the reading is assigned.
- No late submission is to be accepted.
- This is to make sure students read assigned readings ahead of classes, which promote more effective in-class discussions.
- Students can skip up to three reading summaries throughout the semester.
- Grading Criteria : Clarity, Language, Grammar/Mechanics

Discussion Briefs (15%)

After each week's class, students are to write a short write-up that is based on in-class discussions.

- At least 150 words and no more than 300 words in each brief
- Students can skip up to three discussion briefs throughout the semester.
- Two deadlines : Saturday, Mar 4, and Tuesday, May 9, 11:59 PM
- No late submission is to be accepted.
- Grading Criteria : Clarity, Language, Grammar/Mechanics

Projects (30%)

Students will complete research projects that utilize hands-on skills and apply knowledge from class discussions/activities. It will require submission of written reports for superiors or consulting clients to advise them on important cybersecurity matters.

- Prospective Project List (subject to change)

Project	Points	Due Dates (tentative)
Password Analysis	100 pts	Sat, Feb 21
Penetration Test #1	100 pts	Sat, Mar 18
Penetration Test #2 *	100 pts	Sat, Mar 25
Penetration Test #3 *	100 pts	Sat, Apr 1
Phishing Email Draft **	50 pts	Sat, Apr 8
Phishing Email Final *	100 pts	Sat, Apr 22
HBS Case Report Draft	50 pts	Sat, Apr 29
HBS Case Report Final *	100 pts	Thur, May 11

  - * to be revised based on the instructor's feedback
  - ** to be graded based on peer review
  - All due dates are by 11:59 PM EST. No late submission is to be accepted.

In-Class Participation (15%)

There will be a number of in-class discussions, debates, and other activities throughout the semester. It is vital to actively participate in these activities for greater learning.

Department Requirements for MIS Majors

- [Requirement 1] Those who are majoring or double-majoring MIS must earn at least 1,000 PRO points to pass this course by the end of the semester. (See https://community.mis.temple.edu/files/2020/04/MIS-Course-Structure-Updated-March-2020.pdf) This requirement does not apply to non-MIS majors.
- [Requirement 2] MIS majors who are graduating at the end of this semester are required to register as an MIS alumnus - https://community.mis.temple.edu/professionalachievement/register-as-an-alum/. This requirement does not apply to those who are not graduating and to non-MIS majors.
- A failure to meet the above requirement results in an **Incomplete** grade. The department will inform the instructor in Apr-May 2023 of those failing to meet the above requirements, and the instructor will give them an Incomplete grade, which will be converted to a proper grade as soon as the two requirements are met.

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

- Attendance is crucial in this course, as each class involves substantial in-class discussions and activities. Most discussion briefs and projects are associated with in-class activities, which means that if a student misses a class, he/she would not be able to complete follow-up assignments successfully.
- No class recording will be posted on Canvas.
- Email : Use @temple.edu email account for all correspondents with the instructor. Email messages sent from a non-Temple account may not be responded. The instructor does not use Canvas messaging.
- Inclement Weather: Generally, in case of inclement weather, a class will not be canceled as long as the University is open.
- No late submissions are accepted. Late submissions due to computer or network problems will not be excused.

Schedule (subject to change)

Weeks	Dates	Topics
1	Jan 17	Introduction Threat Modeling
2	Jan 24	Introduction to Cryptography Symmetric Cryptography
3	Jan 31	Hashing Asymmetric Cryptography
4	Feb 7	Digital Certificates and Public Key Infrastructures Introduction to Linux and Google Cloud Platform
5	Feb 14	Authentication and Passwords Password Cracking
6	Feb 21	Password Cracking
7	Feb 28	Vulnerability Scanning Vulnerability Exploitation
	Mar 7	*Spring Break*
8	Mar 14	Vulnerability Exploitation

9	Mar 21	Social Engineering
10	Mar 28	Malware Analysis Physical Security
11	Apr 4	Network Security Monitoring
12	Apr 11	Risk Assessment Information Privacy
13	Apr 18	Incident Response and Recovery
14	Apr 25	Incident Response and Recovery

Other Key Dates and Deadlines (subject to change)

Mon, Jan 30	Last day to drop
Sat, Mar 4	First Deadline for Discussion Briefs and Lab Assignments
Mon, May 1	Last day to withdraw
Tue, May 9	Second Deadline for Discussion Briefs
Thur, May 11	Second Deadline for Lab Assignments
Sat, May 13	Instructor deadline for the final grade to the University

All assignments are due by 11:59 PM EST.

Attendance and Your Health

We continue to meet the changing circumstances of the COVID- 19 pandemic with flexibility and by working together as a community. To achieve course learning goals, students must attend and participate in classes, according to the course requirements. However, if you feel unwell or if you are under quarantine or in isolation because you have been exposed to the virus or tested positive for it, you should not come to campus or attend in-person classes or activities. It is the student's responsibility to contact the instructor to create a plan for participation and engagement in the course as soon as you are able to do so, and to make a plan to complete all assignments in a timely fashion, when illness delays your completion.

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.

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.

Expectations for Class Conduct

It is important to foster a respectful and productive learning environment that includes all students in our diverse community of learners. Our differences, some of which are outlined in the University's nondiscrimination statement (https://diversity.temple.edu/), 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.

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 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
- Undergraduate Research Support – https://undergradstudies.temple.edu/
- 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/).

Technology Support

Limited resources are available for students who do not have the technology they need for class. Students with educational technology needs, including no computer or camera or insufficient Wifi-access, should submit a Student Technology Assistance Application located in TUPortal and linked from the Dean of Students Support and Resources webpage (https://deanofstudents.temple.edu/support-and-resources). The university will endeavor to meet needs, such as with a long-term loan of a laptop or Mifi device, a refurbished computer, or subsidized internet access. Internet Essentials from Comcast (https://www.internetessentials.com/)provides the option to purchase a computer for $150 and high-speed Internet service for $9.95 a month, plus tax. The Emergency Broadband Benefit (EBB) (https://www.fcc.gov/broadbandbenefit) is available to purchase Xfinity, Verizon, T-Mobile, and other internet services. Qualified households can receive a temporary monthly credit of up to $50/month toward their Internet service and leased Internet equipment until the program's funding runs out.

- On-campus computer labs are available for student use.
- Note that there are technology resources available for students (https://tuportal6.temple.edu/group/its/tech-labs-and-centers), including some software that is available for free download and other specialty software that may be available for remote access through ITS.