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**MIS582, Information Security Management**

**Spring 2022 – Online Section**

**Instructor:**

Vance Wilson, Ph.D.

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**Course Materials:**

Required Course Texts (note that you’ll need these for discussions and open-book exams):

* Jason Andress, “The Basics of Information Security (Second Edition)”, Publisher: Syngress, 2011. ISBN-13: 978-0128007440
* Bill Gardner and Valerie Thomas, “Building an Information Security Awareness Program: Defending Against Social Engineering and Technical Threats”, Publisher: Syngress, 2014. eISBN-13: 978-0124199675
* Harvard Business Publishing materials. A course packet has been set up for you to purchase and access online at: <https://hbsp.harvard.edu/import/898461>
* Access to the WPI Canvas site for this course; plan to check this site weekly during the course term as it will provide all instructions and scheduling for completing course activities

**Course Description:**

MIS582 will introduce students to the fundamentals of Information Security Management. It is intended to develop an understanding of and appreciation for the importance of information security to all enterprises and to enable current and future managers to understand the role that they should play in securing the enterprise. This course is aimed at any student who is interested in gaining a managerial-level understanding of information security. A combination of readings, lectures, case studies, and on-line discussion of real-world events will be used to bridge the gap between theory and practice. Upon completion of this course, the student will have an in-depth understanding of the essential components of a comprehensive information security program, as well as an understanding of the technology at work behind the scenes.

This course is largely a case-based course that is designed to provide a foundational, managerially-focused understanding of information security concepts through exemplary case studies and other readings. The readings present a management perspective to a broad exposure of information security issues.

**Expectations in this course:**

* This course is structured for students to participate entirely online. There are no synchronous course lectures or full-class student meetings. This allows you to fit course activities to meet your own schedules, with two important caveats:
  + This structure has some limits; course discussion activities require early (Sunday through Tuesday) and late (Wednesday through Friday) participation each week in order to receive full credit, and deadlines must be met.
  + Project groups typically schedule synchronous group meetings among members in order to plan project execution.
* Discussion activities are posted each week and should be considered to be central to course success.
* Plan to spend 10-15 total hours per week working on this course, including readings, assignments, online discussion activities, team meetings, and project production.
* Project teams in this course will be assigned by your instructor.

**WPI’s Mission Statement:**

WPI transforms lives, turns knowledge into action to confront global challenges, and revolutionizes STEM through distinctive and inclusive education, projects, and research.

**The WPI Business School Mission Statement:**

The WPI Business School develops adaptive leaders who create sustainable solutions, deliver globally responsible impact, and conduct transformative research at the intersection of business, technology, and people.

**Relation of this Course to the WPI Business School Mission:**

Information security plays an essential role in every modern organization in order to ensure privacy, confidentiality, and protection of intellectual properties that support organizational strategies and day-to-day operations. Effective implementation and management of information security protocols provides a stable environment, thereby enabling managers to focus on transformative objectives.

**Learning Outcomes:**

Upon successful completion of this course, students will have a detailed understanding of the essential components of Information Security Management. Specifically, the students will be able to:

* Explain the importance of Information Security to all organizations and enterprises, and describe past, present and future trends in this essential area.
* Describe methods for implementing identification, authentication, authorization, access control, auditing, monitoring, and establishing accountability for use of information resources.
* Explain keys aspects of and differences among operations security, physical security, network security, operating system security, and application security.
* Describe major avenues of cyber-attacks and identify strategies that have been successful in deterring attacks or mitigating damage from them.
* Explain how to set up a comprehensive security awareness program.

**Communication:**

Email is the preferred contact method for this course. Your instructor typically responds to email contacts within minutes or hours rather than days. With few exceptions, scoring is completed within three days following submission of assignments.

**Course Approach:**

This 14-week course is structured on a Sunday-Saturday week schedule, with discussion activities open beginning Sundays with new postings on Wednesdays and closing on Fridays.

The course was designed from the ground up for online delivery, so you will not find converted in-class lectures as part of the curriculum. Instead, course structure emphasizes specific modular components which you will encounter most frequently through discussion activities, short instructor commentaries, and focused assignments. The course Canvas site will provide scheduling and instructions for completing all course activities.

**Grading Components:**

***Exams*** (370 points—*individual work*)

Two online 120-minute exams will be administered in the form of Canvas quizzes, one in Week 7 and one in Week 14. Exams will cover readings, lectures, and material assigned through the date the exam is administered.

***Online Participation*** (260 points—*individual work*)

You are expected to participate in in online discussion of readings during weeks 1-7 and 9-14 (20 points allocated per week). Each week a new Canvas discussion forum will be opened for participation on Sunday and closed at the end of Friday, Worcester local time.

Each online participation week will be scored as:

* 16-20 points = overall high-quality participation
* 0-15 points = participation is lacking in quantity, consistency, and/or quality

***Information Security Management Group Project*** (370 points—*group and individual work*)

Guidelines and group member assignments for the project will be posted during Week 3.

### Final Grading Standards:

### The final grade will be calculated as the sum of four components:

Online Participation 260

Exams 370

Group Project 370

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Total Points Possible 1000

Note that no extra credit or additional work for credit will be authorized for individual course members. A course grade of “A” requires performance of 900 points (90%) or above, “B” requires 800 points (80%) or above, and “C” requires 700 points (70%) or above out of total available points. Group assignments may be weighted for individual members by the instructor’s observations of individual performance.

**A:** A grade of “A” is awarded for **exceptional** performance that is marked by richness of thought and creativity, superior integration of ideas, effective use of material, including external resources, and consistent demonstration of the ability to integrate course concepts and apply them effectively to practical examples. This also means that you were able to collect at least 900 points out of 1000. ***Do not ask to receive “A” grading for work that is not exceptional or to have a “close to 900 points” final score increased to an “A” grade for the course.***

**B:** A “B” grade is awarded for work that not only meets all course expectations but, while not exceptional, is **above average**, demonstrating a solid understanding of all material and occasional flashes of insight, well-developed arguments and good application of course concepts. This also means that you were able to collect at least 800 points.

**C:** A “C” grade is awarded for **acceptable** graduate performance. It is given for work that is adequate for credit but lacks the richness of thought demonstrated by higher grades.

**<C:** Indicates you were not able to meet expectations of the course.

**Notes on scoring from your instructor:**

I use an **Expectations +/- Model** for all scoring in this course. Under this system:

* I evaluate whether the exam question response, participation, or group project product meets my basic expectations, i.e., does it satisfactorily fulfill all requirements?
* Products that meet my basic expectations are awarded 80% of the potential score. I then assess whether they exceed expectations sufficiently to be awarded additional credit ranging between 1 and 20% of the potential score.
* For products that do not meet my basic expectations, I deduct from 80% of the potential score.
* I will always add comments where scores do not meet my basic expectations to show where points are being lost, but in many cases, especially for participation scoring, I will not add a comment for scores in the A or B range, as points are being added in these cases, not lost.

### How to Challenge Grading:

### The Canvas system requires manual entry of most grades; thus, potential exists for inaccuracies to arise from human error. You are encouraged to identify inaccuracies in grading as soon as you notice them. However, be aware that much of the grading for this course, including write-ups and project work, is subjective and derives from the instructor’s experience and perspective. Once subjective grades are assigned, they will not be changed by the instructor except to correct objective errors that occur, for example, in calculations or grade entry. Should you wish to report an error, your initial contact must be made via email in order to provide a written record and to allow your instructor time to gather pertinent details regarding the situation. Grade challenges must be submitted within one week of receiving the grade.

**Writing Standards**:

I expect all writing for this course to adhere to reasonable professional standards of business, i.e., being understandable, logically defensible, free of obvious errors, and compliant with laws and regulations. Regarding this last point, I have found that many students blatantly violate rules for use of source material. However innocent this may seem, it is still plagiarism. This problem has been exacerbated by the ready availability and frequent use of online resources. To report your research, you need to know the difference between a direct quotation and paraphrasing, and you must be aware that both uses of others’ work typically require acknowledgement to avoid charges of plagiarism. It may be helpful to utilize Writing Center services available to you at WPI to improve your writing. The best rule to follow is this:

***Do not ever, under any circumstances, copy and paste materials for which you do not hold the copyright into your writing at WPI or elsewhere.***

**WPI Values Statement:**

We are a community that stands for civility and respect. We stand for acceptance of others and champion those who may need compassion and understanding. We are an inclusive community that respects peaceful discord and upholds a fundamental belief that all members of our community deserve to feel safe. Our collective mix of thoughts and experiences enrich those fundamental values that have long guided our university. As we navigate through times of change, know that our values remain.

We believe that a community-wide focus on sustainable inclusive excellence is not only imperative to fostering an inclusive learning and work environment, but also elevating the impact a culture of belonging can have on the greater STEM community.

In The Business School classrooms, our virtual spaces, our practices, and our interactions we strive to be as inclusive as possible. Mutual respect, civility, and the ability to listen and observe others carefully are crucial to universal learning.

**Technical Requirements:**

If students need to access particular software, state it here. Also provide them information for where to turn if they experience technical difficulties, particularly regarding issues with the LMS.

**Library Access:**

Provide the statement below or a similar variation.

As a student at WPI, you have access to a variety of resources through the library. Use the link [here](https://www.wpi.edu/library) to access databases, e-journals, and/or e-books. You will be required to log in with your WPI username and password to access materials.

**Team/Group Dynamics:**

WPI SWEET Center

(<https://www.wpi.edu/academics/global-school/departments-programs-offices/sweet-center>)

Teams that experience difficulties with group dynamics are encouraged to contact the SWEET Center for an individual or team consultation. Individual and Team Consultations are offered by SWEET fellows who are WPI students, staff, faculty, and alumni with lots of project and teamwork experience, and additional training from WPI experts on effective and equitable teamwork. All SWEET Center offerings are available for free to WPI undergraduate and graduate students.

**WPI Writing Center:**

The Writing Center offers one-on-one consultations, both in-person and over Zoom, to help you improve as a writer. Writing Center tutors will read your written work, give you feedback about your document’s strengths and weaknesses, and help you chart a path forward as you revise. Consultations are free and open to all WPI students for all classes and projects, and tutors will happily work with you at any stage of the writing process (early brainstorming, revising a draft, polishing sentences in a final draft). To see our appointment options for both in-person and synchronous online meetings, go to the Writing Center homepage: wpi.edu/+writing

**POLICIES**

**Academic Integrity:**

You are expected to be familiar WPI’s policy on academic integrity available [here](https://www.wpi.edu/about/policies/academic-integrity). Additional information can be found in the [*Student Guide to Academic Integrity at WPI*](https://www.wpi.edu/sites/default/files/docs/Offices/Marketing-Communications/AIStudentguide2019-2020-pages.pdf)*.* Consequences for violating the Academic Honesty Policy range from earning a zero on the assignment, failing the course, or being suspended or expelled from WPI.

Common examples of violations include:

* Copying and pasting text directly from a source without providing appropriately cited credit
* Paraphrasing, summarizing, or rephrasing from a source without providing appropriate citations
* Collaborating on individual assignments
* Turning in work where a good portion of the work is someone else’s, even if properly cited

**Academic Accommodations:**

Courses should be compliant with the **American Disability Act**. Provide the following statement or a similar variation. If you, as the instructor, have questions about making content accessible to all learners, reach out to the [Office of Accessibility Services](https://www.wpi.edu/offices/office-accessibility-services).

We at WPI strive to create an inclusive environment where all students are valued members of the class community.

If you need course adaptations or accommodations because of a disability, or if you have medical information to share with us that may impact your performance or participation in this course, please make an appointment with us as soon as possible.

Students with approved academic accommodations should plan to submit their accommodation letters through the [Office of Accessibility Services Student Portal](https://nam03.safelinks.protection.outlook.com/?url=https%3A%2F%2Fclockwork.wpi.edu%2FClockWork%2Fcustom%2Fmisc%2Fhome.aspx&data=02%7C01%7Ckmarengo%40wpi.edu%7C22931e2c6d094dc8c5b008d82e704f79%7C589c76f5ca1541f9884b55ec15a0672a%7C0%7C0%7C637310407186155797&sdata=cUDQvp%2FujLQggSxO%2BKZISnaJW0E5llOq2qEJ1C67u3k%3D&reserved=0). Should you have any questions about how accommodations can be implemented in this particular course, please contact me as soon as possible.

Students who are not currently registered with the Office of Accessibility Services (OAS) but who would like to find out more information regarding requesting accommodations and what that entails should plan to contact them via:

**Email:** [**AccessibilityServices@wpi.edu**](mailto:AccessibilityServices@wpi.edu) **and/or**

**Phone: (508) 831-4908.**

**On Campus – Daniels Hall, First Floor 124**

**Course Schedule** (If changes are necessary, you will be notified via email to your WPI account)

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| **Class Week** | **Topic and Assigned Reading\*** | **Deliverables Due** |
| **Week 1**  (Jan. 16-22) | **What is Information Security Management?**  View Introduction to MIS582 video located in Canvas Week 1 module |  |
| **Week 2**  (Jan. 23-29) | **Identification and Authentication**  *Basics* Chapter 2; *HBSP* Case, “Secom: Managing Information Security in a Risky World” |  |
| **Week 3**  (Jan. 30-Feb. 5) | **Authorization and Access Control**  *Basics* Chapter 3; *Canvas* Article, “Tutorial: Identity Management Systems and Secured Access Control” |  |
| **Week 4**  (Feb. 6-12) | **Auditing and Accountability**  *Basics* Chapter 4; *Canvas* Article, “Spreadsheets and Sarbanes-Oxley: Regulations, Risks, and Control Frameworks” | Project Group Charter Due Feb. 12 |
| **Week 5**  (Feb. 13-19) | **Cryptography, Blockchain**  *Basics* Chapter 5  *HBSP* Case, “Security Breach at TJX”  *HBSP* Article, “An Introduction to Blockchain” |  |
| **Week 6**  (Feb. 20-26) | **Operations and Physical Security**  *Basics* Chapters 7 and 9, *Awareness* Chapter 8  *Canvas* Article*,* “Improving Employees’ Compliance Through Information Systems Security Training” |  |
| **Week 7**  (Feb. 27-March 5) | **Network Security**  *Basics* Chapters 8 and 10; *HBSP* Case, “The iPremier Company (A): Denial of Service Attack” | **Exam 1** available March 3-5 |
| **Spring Break** | | |
| **Week 8**  (March 13-21) | **Focus on Project**  Prepare Organization Analysis Document | Organization Analysis Document due March 21 |
| **Week 9**  (March 20-26) | **Operating System and Application Security**  *Basics* Chapters 11 and 12; *HBSP* Case, “Y2K All Over Again” |  |
| **Week 10**  (March 27-April 2) | **Introduction to Security Awareness**  *Awareness* Chapters 1-4 |  |
| **Week 11**  (April 3-9) | **Social Engineering**  *Awareness* Chapters 7 and 11 |  |
| **Week 12**  (April 10-16) | **Security Awareness Training**  *Awareness* Chapters 9, 10, 12, and 13 |  |
| **Week 13**  (April 17-23) | **Responding to Crisis**  *Awareness* Chapter 5; *HBSP* Case, “Boss, I Think Someone Stole Our Customer Data” | Final presentation and report due April 16 |
| **Week 14**  (April 24-30) | **Focus on Project**  Final online discussions | **Exam 2** available April 28-30 |

\* Key: *Basics* and *Awareness* refer to course texts; *HBP* =in Harvard Business Publishing course packet; *Wikipedia* = Read Wikipedia entry online; *Canvas* = Download from module for that week in Canvas