



Cyber Security and Risk Management

53:623:670

Term: Fall 2024

Mode of delivery: Hybrid – On-Campus + Asynchronous

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Office Hours: Meetings available by appointment and by request.

Key Fall 2024 Dates :

In-Person / Synchronous Class Sessions:	Wednesday, September 4 th Wednesday, October 2 nd Wednesday, November 6 th Wednesday, November 20 th Wednesday, December 4 th
Mid-Term Exam	Wednesday, October 30 th
In-Person / Synchronous Group Project Presentation:	Wednesday, November 20 th
Last day of coursework	Wednesday, December 11 th
Final Exam period	Wednesday, December 18 th

Course Description

Cyber Security and Risk Management (3 credits)

Information Security is a topic that impacts every one of us in our everyday lives. This course will cover the fundamentals of Information Security and Risk Management and will shift the lens of Information Security as a “technology issue” to understand cyber risk as business risk.

In this course, you will learn common frameworks and best practices for information security, and how they apply the development of an effective risk management strategy. Students will consider information security in the context of data security with a focus on maintaining the confidentiality, integrity, and availability of information.

Course Learning Objectives

Upon successful completion of this course students should be able to:

1. Identify the importance of cybersecurity in the context of business and the geopolitical landscape
2. Identify best practices, frameworks, and methodologies for evaluating cyber risk
3. Identify strategies to monitor, measure and report the effectiveness of cybersecurity programs to executive leaders
4. Explain the importance of data and the importance of data protection
5. Explain the applicability of data analytics to cyber security, beyond metrics and reporting

School of Business-Camden Program Learning Goals

- Communication effectiveness and impact
- Technology fluency,
- Ethical consideration

Course Materials:

TEXTBOOK:

Effective Cybersecurity: A Guide to Using Best Practices and Standards, Publisher - Pearson (2019)

Cybersecurity: The Insights You Need from Harvard Business Review

Case Study for Purchase: Alexa + Privacy dilemma <https://store.hbr.org/product/alexa-a-pandora-s-box-of-risks/KE1143>

OTHER:

Narrated lectures, readings, and other posted material is available on the class Canvas site.

This course will also use various periodicals and websites (Wall Street Journal, Financial Times, etc) as a supplement.

How to succeed in this course

- Read all text material assigned for each class
- Actively participate in class discussions
- Follow instructions in all assignments

COMMUNICATION and USE OF CANVAS

EMAIL- USE YOUR RUTGERS EMAIL ADDRESS

All communications to students will be done using the Rutgers email address provided to you. Please forward your Rutgers email to your personal email if necessary.

Not checking your Rutgers email is not an excuse for missing any communications.

CANVAS

Canvas is the learning management system used for this course. Posted will be the syllabus, resources, Power Point slides, announcements, guides, etc. To access this system, go to <http://canvas.rutgers.edu> log in, and click on the course in the dashboard. For technical support 833-648-4357 or help@camden.rutgers.edu.

Professor Communication:

Note that during the week, from Monday until Friday, I will try reply to all e-mails within 48 hours. Please do not expect immediate response. If you do not hear from me within 72 hours, please re-send your email as I may have overlooked or accidentally deleted your e-mail.

Although I check my e-mails a few times daily, I may not be able to completely answer all e-mails immediately upon receiving them. Note that I may also be travelling out of town on many weekends and may not be able respond to weekend e-mails until Monday.

CLASSROOM POLICIES

Exam, Quizzes, Assignment Make-up Policy

Make-up Work Policy: If, for a university-approved reason, you cannot complete a quiz, assignment, or exam during the scheduled time, you must give me written notice via email (xxxx@camden.rutgers.edu) at least one week in advance so that other arrangements can be made. If the situation does not allow for advance notification (e.g., emergency hospitalization), contact me as soon as possible after the missed work and provide written documentation. The ability to make up work for non-university approved reasons is not guaranteed. The professor reserves the right to request written documentation to support your absence (such as a doctor's note, an obituary, or military orders).

Late Work Policy: All work must be completed and uploaded to Canvas by the specified due date (with the exception of a university-approved, documented, and professor or Dean of Students verified reason; see Make-up Work Policy above). Any work submitted after the due date and time will receive a reduction of one full letter grade for each day that it is late.

Incompletes: "Incompletes" will only be given through prior consultation, under extreme circumstances, and when completion of the course requirements in question would substantially improve your grade. In the rare event when an "incomplete" is given, you must submit all of the agreed-upon work to me by the Rutgers registrar deadline to avoid the "incomplete" converting to an "F": <https://registrar.camden.rutgers.edu/gradeinstruction#incomplete>.

Assessments

Homework Assignments (15%): Many of the course modules will have accompanying review questions as outlined in the course schedule. Students are expected to complete the review questions individually and submit responses in Canvas.

CASE STUDIES / PAPERS / PROJECTS:

There will be 1 – 3 case studies assigned during the course. Students are required to complete the case as outlined in the case instructions posted and discussed during the lesson related to the case study topic. Case studies must be submitted electronically through Canvas and are due by 11:59pm on the Friday before the class presentation. *Late submissions will not be accepted without prior pre-approval from the professor.*

There will be written papers required of students as outlined in the course schedule. The paper(s) must follow the guidelines as outlined in the assignment instructions in the Canvas course module. Generally, papers should be approximately 3-5 pages in length. While this is not an English class or business communications class, it is expected that students present their ideas in a clear, concise, and grammatically correct fashion. The papers in this course are designed to provide students with an opportunity to combine objective knowledge of contemporary topics with their opinions and perspectives – the more personal the submissions the better.

EXAMS: Two exams are planned for this course. All students will take the interim and final exam during

the designated time. Make-up exams are not offered. Please take this exam schedule into consideration when you make your travel arrangements. All exams will be given in the regular classroom unless otherwise posted. If an exam is missed due to a qualified emergency / university approved reason, contact me to determine alternative arrangements.

CLASS PARTICIPATION: The course will be delivered using a combination of lectures, case studies, videos, and in-depth conversation. Students are expected to prepare for class discussions as indicated in the course schedule, complete the required readings, attend class, and come prepared to contribute to class discussions. Participation includes questions during the lecture portion of class, but more importantly contributions to a lively discussion. Consistent with other courses at the university, this course will assess contributions to the class discussion and consider the following:

- do your comments provide new insights?
- do the comments add to our understanding of the issues
- are the comments timely and linked to the comments of others?
- do the comments move the discussion along by giving a new perspective?
- are the comments clear and concise?
- do the comments reflect a concern for maintaining a constructive and comfortable classroom atmosphere?

Cyber security incidents occur in the news multiple times per day. Students are encouraged to monitor news outlets, tech blogs, and websites and bring the latest news to class.

Finally, there may be guest speakers during the course (virtual or in-person). Class participation includes interactions with guest speakers, including preparation of thought-provoking questions.

Course Grading

The assignment of final grades, the course requirements will be weighted approximately as follows:

Homework Assignments	15%
Mid-Term exam	25%
Final exam.....	25%
Project/Case Studies.....	15%
Class participation	20%

Final Grade Ranges

A Highest grade (90% and above)
B+ Work of distinction (86.5% to 89.4%)
B Work of distinction (79.5% to 86.4%)

C+ Average work (76.5% to 79.4%)
C Average work (69.5% to 76.4%)
D Passing, but unsatisfactory (60% to 69.4%)
F Failure without credit (Below 60%)

Disability Services/Accommodations

The University is committed to supporting the learning of all students and faculty will provide accommodations as indicated in a Letter of Accommodation issued by the Office of Disability Services (ODS). If you have already registered with ODS and have your letter of accommodations, please share this with me early in the course. If you have or think you have a disability (learning, sensory, physical, chronic health, mental health or attentional), please contact <https://success.camden.rutgers.edu/disability-services>.

Accommodations will be provided only for students with a letter of accommodation from ODS. Their services are free and confidential. Letters only provide information about the accommodation, not about the disability or diagnosis.

Academic Integrity

The Academic Integrity policy can be found at <https://studentconduct.rutgers.edu/processes/university-code-student-conduct> <http://studentconduct.rutgers.edu/student-conduct-processes/academic-integrity/>

Students are responsible for understanding the principles of academic integrity and abiding by them in all aspects of their work at the University. Students are also encouraged to help educate fellow students about academic integrity and to bring all alleged violations of academic integrity they encounter to the attention of the appropriate authorities.

Academic Integrity means that you (the student) must:

- properly acknowledge and cite all use of the ideas, results, or words of others,
- properly acknowledge all contributors to a given piece of work,
- make sure that all work submitted as your own in a course activity is your own and not from someone else
- obtain all data or results by ethical means and report them accurately
- treat all other students fairly with no encouragement of academic dishonesty

Adherence to these principles is necessary in order to ensure that:

- everyone is given proper credit for his or her ideas, words, results, and other scholarly accomplishments
- all student work is fairly evaluated, and no student has an inappropriate advantage over others
- the academic and ethical development of all students is fostered
- the reputation of the University for integrity is maintained and enhanced.

Failure to uphold these principles of academic integrity threatens both the reputation of the University and the value of the degrees awarded to its students.

Artificial Intelligence Use

The use of generative AI tools (such as ChatGPT, DALL-E, etc.) are not permitted in this class; therefore, any use of AI tools for work in this class may be considered a violation of Rutgers University's Academic Honesty policy and Student Conduct Code, since the work is not your own. When in doubt about permitted usage, please ask for clarification.

Code of Student Conduct

Rutgers University-Camden seeks a community that is free from violence, threats, and intimidation; is respectful of the rights, opportunities, and welfare of students, faculty, staff, and guests of the University; and does not threaten the physical or mental health or safety of members of the University community, including in classroom space.

As a student at the University, you are expected adhere to the Code of Student Conduct.

To review the code, go to the Office of Community Standards:

<https://deanofstudents.camden.rutgers.edu/student-conduct>

Note that the conduct code specifically addresses disruptive classroom conduct, which means *"engaging in behavior that substantially or repeatedly interrupts either the instructor's ability to teach or student learning. The classroom extends to any setting where a student is engaged in work toward academic credit or satisfaction of program-based requirements or related activities."*

APPENDIX: Course Schedule

Date	Topic	Modality	Lesson Overview / Key Points	Assigned Reading	Post-Lesson Assignment
9/4/2024	Course Introduction: Cyber Risk is Business Risk	In-Person / Synchronous	<ul style="list-style-type: none"> - Course Expectations and Syllabus Review - Class Introductions - Overview of Cybersecurity - Recent events and the importance of cybersecurity 	Course Syllabus Week 1 - Cybersecurity Is Not (Just) a Tech Problem Week 1 - The Cybersecurity Risks of an Escalating Russia-Ukraine Conflict Week 1 - DI_Defending	None
9/11/2024	Documentary: The Perfect Weapon	Asynchronous	<ul style="list-style-type: none"> - Each student will be required to view either "The Perfect Weapon" or "Zero Days" and prepare a 3-page response paper (instructions provided on Canvas) - Class discussion the following week will be on the importance of Cyber Security in business and geopolitical relations 	"We're All in this Now" HBR prologue (page xi) https://watchdocumentaries.com/zero-days/	Response Paper
9/18/2024	Understanding and Differentiating Security Frameworks	Asynchronous	<ul style="list-style-type: none"> - Discuss the need for standards and best practices in Information Security - Discuss the role of the NIST CSF and differences from other frameworks - Discuss the CIS Critical Security controls and practical applications - Explain the concept of Security governance and provide an Overview of governance components - Discuss key topics that should be covered in a strategic Security plan 	"Effective Cybersecurity" - Chapters 1 & 2	Chapter 1: Review question 2 Chapter 2: Review question 4
9/25/2024	Managing Information Security and Human Risk	Asynchronous	<ul style="list-style-type: none"> - Discuss the behavioral components of information security - Describe the need for a culture of information security 	"Effective Cybersecurity" - Chapter 5 "The Best Cybersecurity Investment You Can Make Is Better Training" HBR article 6 (page 67) "The Key to Better Cybersecurity: Keep Employee Rules Simple" HBR article 8 (page 85)	Chapter 5: Review questions 10 and 11
10/2/2024	Risk Management: Methodologies, Assessments, and Risk Quantification	In-Person / Synchronous	<ul style="list-style-type: none"> - Introduce Semester Project: Security Awareness Campaign - Discuss risk management methodologies - Understand the difference between Inherent risk and Residual risk - Identify practical applications of risk management frameworks - Discuss risk quantification and the applicability to executives and business users 	"Effective Cybersecurity" - Chapter 3 "Why the Entire C-Suite Needs to Use the Same Metrics for Cyber Risk" HBR article 5 (page 59)	Chapter 3: Review questions 3 and 4
10/9/2024	Supply Chain Risk and Third-Party Risk Management	Asynchronous	<ul style="list-style-type: none"> - Discuss supply chain risk and third-party risk management - Discuss the interconnectedness and dependencies organizations have on key suppliers - Learn repeatable and practical framework for evaluation of third parties/supply chain vendors 	"Effective Cybersecurity" - Chapter 13	Chapter 13: Review questions 2, 6, and 7

10/16/2024	Documentary: Terms and Conditions Apply	Asynchronous	<ul style="list-style-type: none"> - Each student will be required to view either "The Great Hack" or "Terms and Conditions Apply" - Students will complete the privacy case study in advance of the next lesson. 	https://watchdocumentaries.com/terms-and-conditions-may-apply/	Case Study response paper submissions.
10/23/2024	Privacy and Implications, Information Management, and Data Protection	Asynchronous	<ul style="list-style-type: none"> - Discuss data privacy and responsibilities of data collectors (response to documentary) - Discuss the data governance lifecycle - Explain the importance of data classification, labeling, and handling 	"Effective Cybersecurity" - Chapter 6 "Cybersecurity is Putting Customer Trust at the Center of Competition" HBR article 11 (page 117) "Privacy and Cybersecurity are Converging" HBR article 12 (page 125)	Chapter 6: Review questions 2 and 9
10/30/2024	MID-TERM EXAM				
11/6/2024	Business Continuity and Resilience	In-Person / Synchronous	<ul style="list-style-type: none"> - Provide an Overview of business continuity and business impact analysis - Explain the key elements of business continuity programs - Discuss business continuity operations and responding to events 	"Effective Cybersecurity" - Chapter 17	Chapter 17: Review questions 3 and 5.
11/13/2024	Logging, Monitoring, and Behavioral Analysis	Asynchronous	<ul style="list-style-type: none"> - Explain the importance of event logging and monitoring - Explain how logging and monitoring data can be mined to determine behavioral analyses, anomalies, and identify insider threats - Identify the difference between a Security event and Security incident - Explain the nature and value of threat intelligence data 	"Effective Cybersecurity" - Chapter 15	Chapter 15: Review questions 5 and 7
11/20/2024	Project Presentations: Security Awareness	In-Person / Synchronous	Presentations of group assignment	Presentations due in Canvas by start of class	None
11/27/2024	THANKSGIVING BREAK - NO CLASS				
12/4/2024	Monitoring, Measurement, KPIs, and Reporting Careers in Information Security	In-Person / Synchronous	<ul style="list-style-type: none"> - Identify key risk indicators and key performance indicators that support effective information security programs - Discuss the perspective and responsibilities of the Board of Directors with regards to oversight of information security - Discuss careers in information security and potential career paths 	"Effective Cybersecurity" - Chapter 18 "Why Boards Aren't Dealing with Cyberthreats" HBR article 3 (page 39) Module 14 - A new chapter in cyber https://www.cyberseek.org/	None
12/11/2024	Industrial Control Systems, Physical Security and Physical Asset Management	Asynchronous	<ul style="list-style-type: none"> - Explain the risks and vulnerabilities related to physical assets - Identify the difference between Information Technology (IT) systems and Operational Technology (OT) / Industrial Controls Systems (ICS) - Discuss physical security and environmental protections for physical devices in the context of data protection 	"Effective Cybersecurity" - Chapter 16 "Effective Cybersecurity" - Chapter 7 Cybersecurity and Physical Security Convergence_508_01.05.2021_0	Chapter 16: Review question 6 Chapter 7: Review question 8
12/18/2024	FINAL EXAM				