

Management Science and Information Systems

Course Number: 29:623:345

Course Title: Cyber Security

COURSE DESCRIPTION

The objective of this course is to introduce to students the emerging area of information security. The course provides them with an understanding of the state-of-the-art security technologies for securing communications, securing access, and hacker attacks. Security requirements such as identification and authentication, authorization, and access control are discussed, along with technologies to enforce them. The course also discusses issues such as regulation, database security, secure electronic payments, authentication technologies, host based and network-based security issues, personnel and physical security issues, and issues of law and privacy.

COURSE MATERIALS

Required Textbook(s):

1. Cybersecurity Fundamentals – ISBN 978-1-60420-700-2
2. Materials for the course posted on Canvas <http://canvas.rutgers.edu>. You are to check canvas regularly for lecture notes, quizzes, assignments, and more

LEARNING GOALS AND OBJECTIVES

LGO1. Students will learn the tools, techniques, and methods of Protection of Information Assets

LGO2. Students will learn the tools, techniques, and methods of securing Information Systems Operations, Maintenance, and Support

LGO3. Students will learn the tools, techniques, and methods of securing Information Systems Acquisition, Development, and Implementation

LGO4. Students will learn the tools, techniques, and methods of Governance and Management of IT

LGO5. Students will learn the tools, techniques, and methods of Auditing Information Systems for Cyber Defense

PREREQUISITES

School 29 courses at the 300 level and higher are for Rutgers Business School Undergraduate Newark majors/minors only. All RBS students must complete the following courses prior to taking any upper level business courses: 21:355:101(English Composition I);

21:355:102(English Composition II);21:220:101(Intro to Econ-Micro);21:220:102(Intro to EconMarco);21:220:231(Statistical Methods(or)21:640:211(Statistics);29:010:203(Financial Accounting)29:010:204(Managerial Accounting);21:640:119(Basic Calculus). 29:623:319, 29:623:375

ACADEMIC INTEGRITY

I do NOT tolerate cheating. Students are responsible for understanding the RU Academic Integrity Policy (<http://academicintegrity.rutgers.edu/>)

I will strongly enforce this Policy and pursue *all* violations. On all examinations and assignments, students must sign the RU Honor Pledge, which states, “On my honor, I have neither received nor given any unauthorized assistance on this examination or assignment.” I will screen all written assignments through *SafeAssign* or *Turnitin*, plagiarism detection services that compare the work against a large database of past work. Don’t let cheating destroy your hard-earned opportunity to learn. See business.rutgers.edu/ai for more details.

ATTENDANCE AND PREPARATION POLICY

- Expect me to attend all in-class sessions. I expect the same of you. If I am to be absent, my department chair or I will send you notice via email and Canvas as far in advance as possible.
- For weather emergencies, consult the campus home page. If the campus is open, class will be held.
- Expect me to arrive on time for each class session. I expect the same of you.
- Expect me to prepare properly for each class session. I expect the same of you. Complete all background reading and assignments. You cannot learn if you are not prepared. The minimum expectation is that for each class session, you have prepared by studying for at least twice as many hours as the class hours.
- Expect me to participate fully in each class session. I expect the same of you. Stay focused and involved. You cannot learn if you are not paying attention.

CLASSROOM CONDUCT

- All cell phones should be turned off

- Please raise your hand before asking questions
 - Refrain from side conversations, sleeping, and other disruptive behaviors.
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EXAM DATES AND POLICIES

(NO MAKEUP EXAMS)

There are 3 exams in this course:

Midterm1:

In-class, closed book/notes, calculator allowed, no laptops or PDAs, all cell phones turned off

Midterm2:

In-class, closed book/notes, calculator allowed, no laptops or PDAs, all cell phones turned off

Final Exam:

Comprehensive, in-class, closed book/notes, calculator allowed, no laptops or PDAs, all cell phones turned off. During in-class exams, the following rules apply:

- If you have a disability that influences testing procedures, provide me an official letter from the Office of Disability Services at the start of the semester.
 - No cell phones or other electronics are allowed in the testing room.
 - You must show a valid Rutgers photo ID to enter the room and to turn in the exam. -
Alternate seating; do not sit next to another student or in your usual seat.
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GRADING POLICY

Course grades are determined as follows:

Quizzes & Assignments	20%
Midterm 1	20%
Midterm 2	20%
Final exam	40%
Extra credit:	None

Grade distribution:

Letter	Percentage
A	90-100
B+	87-89.99

B	80-86.99
C+	77-79.99
C	70-76.99
D+	67-69.99
D	60-66.99
F	<60

1. Grades will not be rounded up or down – they are calculated and recorded to the one hundredth place automatically and are used in that form to assign midterm and final grades. There will be no “curve”.

2. All examinations and quizzes, including the Final Examination, should be considered cumulative.

3. COURSE GRADE WILL BE ISSUED WHEN ALL COURSE REQUIREMENTS ARE MET.

- Grade posting: Grades will be provided within a week of an exam, assignment/paper submission, or quiz. Grades on hardcopy items will be provided in person in the class when the specific items are returned. For online/Canvas items, grades will be posted in the Canvas.

- Return of graded items: Graded items will be returned within two weeks in person for hardcopy items and via Canvas for online items. Final exam and final project reports will not be returned. Canvas for this course will be turned off and archived at the end of the final exam.

- Grade related information: No grade related information will be provided through email. All grade related information will be provided in person via appointments. It is expected that you are respectful when you review your grade with me and accept the grade you have earned. Please do not use abusive language in email or in person. Any instances of that will be reported according to university guidelines.

- Warning grade roster: Warning grades will be issued if needed. You must watch for warning grades.

- Pregrading & regrading: Requests to review assignments before final submission (pregrading) will be provided by appointment and primarily after class hours. Requests to regrade assignments. Quizzes, & exams must be done in writing to the instructor within one week of the specific items being returned.

Regraded items will be delivered back to students in person during after class hours.

- Grade grubbing: Your final grade is not subject to negotiation. If you feel I have made an error, submit your written argument to me within one week of receiving your grade of the specific item. If you want me to review the final grade, submit your written argument to me within one week of receiving your final grade. Clarify the precise error I made and provide all due supporting documentation. If I have made an error, I will gladly correct it. But I will adjust grades only if I have made an error. I cannot and will not adjust grades based on consequences, such as hurt pride, lost scholarships, lost tuition reimbursement, lost job opportunities, or dismissals. Do not ask me to do so. It is dishonest to attempt to influence faculty in an effort to obtain a grade that you did not earn, and it will not work

COURSE SCHEDULE

(Tentative schedule, Subject to Change)

Topic	Deliverable
Administrative Details Introduction to Cyber Security	

Intro to Cyber Security and Information Systems Overview	
Cybersecurity Concepts	HW1 Released
Security Architecture Principles	HW 1 Due
Security Architecture Principles	HW 2 Released
EXAM 1	
Security of Networks, Systems, Application and Data	HW 2 Due
NO CLASS	
Security of Networks, Systems, Application and Data	HW 3 Released
Incident Response	HW 3 Due
EXAM 2	
Incident Response	
Security Implications and Adoption Of Evolving Technology	
Security Implications and Adoption Of Evolving Technology	
Review	
FINAL –	

SUPPORT SERVICES

If you need accommodation for a *disability*, obtain a Letter of Accommodation from the Office of Disability Services. The Office of Disability Services at Rutgers, The State University of New Jersey, provides student-centered and student-inclusive programming in compliance with the Americans with Disabilities Act of 1990, the Americans with Disabilities Act Amendments of 2008, Section 504 of the Rehabilitation Act of 1973, Section 508 of the Rehabilitation Act of 1998, and the New Jersey Law Against Discrimination. More information can be found at ods.rutgers.edu.

[Rutgers University-New Brunswick ODS phone (848)445-6800 or email dsoffice@echo.rutgers.edu]

[Rutgers University-Newark ODS phone (973)353-5375 or email ods@newark.rutgers.edu]

If you are ***pregnant***, the Office of Title IX and ADA Compliance is available to assist with any concerns or potential accommodations related to pregnancy.

[Rutgers University-New Brunswick Title IX Coordinator phone (848)932-8200 or email jackie.moran@rutgers.edu]

[Rutgers University-Newark Office of Title IX and ADA Compliance phone (973)353-1906 or email TitleIX@newark.rutgers.edu]

If you seek ***religious accommodations***, the Office of the Dean of Students is available to verify absences for religious observance, as needed.

[Rutgers University-New Brunswick Dean of Students phone (848)932-2300 or email deanofstudents@echo.rutgers.edu]

[Rutgers University-Newark Dean of Students phone (973)353-5063 or email DeanofStudents@newark.rutgers.edu]

If you have experienced any form of ***gender or sex-based discrimination or harassment***, including sexual assault, sexual harassment, relationship violence, or stalking, the Office for Violence Prevention and Victim Assistance provides help and support. More information can be found at <http://vpva.rutgers.edu/>.

[Rutgers University-New Brunswick incident report link: <http://studentconduct.rutgers.edu/concern/>. You may contact the Office for Violence Prevention and Victim Assistance at (848)932-1181]

[Rutgers University-Newark incident report link: https://cm.maxient.com/reportingform.php?RutgersUniv&layout_id=7 . You may also contact the Office of Title IX and ADA Compliance at (973)353-1906 or email at TitleIX@newark.rutgers.edu. If you wish to speak with a staff member who is confidential and does **not** have a reporting responsibility, you may contact the Office for Violence Prevention and Victim Assistance at (973)353-1918 or email run.vpva@rutgers.edu]

If students who have experienced a temporary condition or injury that is adversely affecting their ability to fully participate, you should submit a request via <https://temporaryconditions.rutgers.edu> .

If you are a military **veteran** or are on active military duty, you can obtain support through the Office of Veteran and Military Programs and Services. <http://veterans.rutgers.edu/>

If you are in need of **mental health** services, please use our readily available services.

[Rutgers University-Newark Counseling Center: <http://counseling.newark.rutgers.edu/>]

[Rutgers Counseling and Psychological Services–New Brunswick: <http://rhscaps.rutgers.edu/>]

If you are in need of **physical health** services, please use our readily available services.

[Rutgers Health Services – Newark: <http://health.newark.rutgers.edu/>]

[Rutgers Health Services – New Brunswick: <http://health.rutgers.edu/>]

If you are in need of **legal** services, please use our readily available services: <http://rusls.rutgers.edu/>

Students experiencing difficulty in courses due to **English as a second language (ESL)** should contact the Program in American Language Studies for supports.

[Rutgers–Newark: PALS@newark.rutgers.edu]

[Rutgers–New Brunswick: eslpals@english.rutgers.edu]

If you are in need of additional **academic assistance**, please use our readily available services.

[Rutgers University-Newark Learning Center: <http://www.ncas.rutgers.edu/rlc>]

[Rutgers University-Newark Writing Center: <http://www.ncas.rutgers.edu/writingcenter>]

[Rutgers University-New Brunswick Learning Center: <https://rlc.rutgers.edu/>]

[Optional items that many faculty include:

- Students must sign, date, and return a statement declaring that they understand the RU Academic Integrity Policy.

- Students must sign, date, and return a statement declaring that they understand this syllabus.]