Florida Atlantic University
COLLEGE OF BUSINESS

ISM 4320 - Section 001
CRN: 10226
Course Title: Introduction to Cybersecurity
Term: Spring 2020
Class Location: FL 411
Class Meeting Time: T 6:30PM-9:20PM

Professor Information
Instructor: Dr. Chul Woo Yoo
Office: FL 212, Boca Campus
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Phone: (561) 297-2532

Office Hours
T 10:00AM-11:00AM, T 2:00PM-3:00PM or by appointment

Required Text and Materials
Mark Ciampa, CompTIA Security+ Guide to Networking Security Fundamentals, 6th Edition, 2017, Course Technology, ISBN: 9781337288781

Course Description
This course offers a balance of the managerial and technical aspects of information and cyber security. A comprehensive overview is offered of cybersecurity issues related to operating systems, databases, networks, physical and infrastructural security, and cryptography.

Course Prerequisites and Credit Hours
3 credit hours

Course Learning Objectives
This is an introductory course discussing various technical and administrative aspects of Information Systems Security. In this course, we will take an in-depth look at network security concepts and techniques. We will also examine theoretical concepts of information security. A few practical and hands-on approaches will be discussed to better explore networking security software and hardware tools. This course will explore network security implementation as well as techniques and strategies to address security related issues including systems and network.

While technical side of IS security is not neglected, as a number of technical aspects and security technologies are specifically considered, the emphasis of the course is the information systems security efforts. It does, therefore, seek to highlight the implications of the underlying technologies, rather than the mechanics of those technologies for the most part. Technical

knowledge about the fundamental principles of the technologies underlying modern business telecommunications and computer networks

Grading Scale
Grades are rounded up to the nearest tenth of a point.

Grade Percentage Breakdown	
Mid-term Exam I	20%
Mid-term Exam II	20%
Final Exam	20%
Lab Assignments	20%
Group Project	20%
Total	**100%**

Final Grade Assignment		
A	100	– 94.00
A-	93.99	– 91.00
B+	90.99	– 88.00
B	87.99	– 84.00
B-	83.99	– 80.00
C+	79.99	– 76.00
C	75.99	– 74.00
C-	73.99	– 70.00
D+	69.99	– 68.00
D	67.99	– 64.00
D-	63.99	– 60.00
F	59.99	– 0.00

- Group evaluation grade adjustment policy
Group evaluations will be conducted at the end of the semester to ensure all group members equal participate. Please be considerate as these evaluations will be used to adjust the group score into individual score. Adjustment will be based on the amount of work a student contributes to the assignment using the formula below. Your group project score for this course will be influenced by peer evaluations. Your group evaluation submitted to the instructor will be remained strictly confidential thus students will not be able to see evaluations submitted by other students.

Course Evaluation Method

This three-hour course can be divided into two sections, a lecture session and a lab session.

1. Lab Assignment: During the lab session, there will be security practice assignments at **every week**. The main purpose of these assignments is to expose students to at least some parts of currently available technologies used in network security. Students will be required to conduct a HW/SW configuration & testing, role playing, and/or short research (mostly on the Internet). These will be done during the lab session. *Students are responsible for checking their lab assignment grades every week. After the last day of the semester, grade change will not be made.

2. Exams. There will be **three** (3) non-accumulative examinations – a mid-term 1, a mid-term 2 and a final exam. The content will come from the textbook, PowerPoint files and other material presented in lecture sessions. Note that material presented in class will supplement the assigned reading. Therefore, class attendance and good note taking are essential tactics for success.

3. Group Project. There will be **one group project** given during the semester. It is basically a research project, which combines technical knowledge with managerial skills. There will be group deliverables such as a project report and a presentation that you have to work on as a team. You have to work as a strongly coupled team, where you will actually be making a contribution to the state of practice in the information technology security arena. Details regarding the topics of the project and due dates will be posted on the course web site. *Students are responsible for checking the grading rubric.

3.1 Group Project Instruction

Goal: Prepare and present a report describing a selected information security management-related topic in depth.

Overview: Your term project will deal with one of topics that will be addressed in the classroom. These topics are related to recent information security issues. Each group will conduct research aimed at informing audiences of various aspects of the information security technology chosen, possible historical antecedents, commercial attractiveness, and any additional information that might be pertinent to help the audiences understand or be informed of the security technology management.

Suggested procedure:
- o Select a topic from the list on the Canvas (see Important Dates above).
- o Research the selected topic and identify aspects related to information security technologies. Relate the topic to material learned in class throughout the term, whenever possible.

o   Learn what you can about the event and collect additional materials and references.
o   Prepare your paper and presentation according to the requirements below.
o   Submit one-page outline via the Canvas (see Important Dates above).
o   Present your work in class (see Important Dates above).
o   Submit final version of the paper [Word document (.doc or .docx)] via the Canvas (see important dates below).

Possible topics:
[1] Biometrics
[2] Information privacy
[3] Secure hardware
[4] OS security
[5] Legal issues in information security
[6] Security of electronic money systems
[7] IoT and security
[8] Smartphone security
[9] Security breach case study
[10] Others

Evaluation Criteria:

Paper (50% of the grade):
In your paper, you should provide sufficient background (supported with citations) of the topic of interest and focus the topic description on the information security aspects/issues you identified in your research. However, the main part of your paper should pertain to your critique/analysis of the topic in relation to our class material and discussions.

Paper content requirements:
Analyze the selected topic in relation to concepts and material you have learned from class. Be sure to provide a thoughtful synthesis of information, not just a report of facts that you discovered in your research. Your paper should include the following major sections (the number of pages is a guide, not an absolute):

- Introduction (1-2 pages) – clear overview of the paper and its purpose
- Topic description (3-4 pages) – factual, well-cited background information on the topic
- Critique/analysis (3-4 pages) – how does material from our course inform the selected topic?
- Use this section (and subsections) to provide your own thoughts on the topic, for example the possible implications to an organization, employees, customers, society, or government. Include specific examples of how

material you have learned in class has helped you form your judgment or analysis.
  - Conclusion (1-2 pages) – summarize the possible implications of the topic that you identified and include at least two thought-provoking questions related to your topic.

Paper format requirements:
  - 8-12 pages (excluding title page, table of contents, and references), 1" margins, double-spaced
  - 12-point Times New Roman font
  - APA formatting for entire paper (not just references)
  - Title page
  - Table of contents
  - At least 10 citations using APA parenthetical references and corresponding reference list
  - Appropriate headings and subheadings for each section
  - Page numbers centered at the bottom of each page

Presentation (50% of the grade):
Present the findings of your reference paper to the class in a 15-20 minute presentation. Be sure to include some background information describing the topic that you selected. Most of your presentation should pertain to your analysis of the topic and the security implications.

Presentation content requirements:
You should address the following information during your presentation (the suggested number of minutes are a guide, not an absolute):

  - Introduction (< 4 minute) – overview of your presentation
  - Description of the topic of your reference paper (6-8 minutes)
  - Critique/analysis/implications (6-8 minutes) – what are the security implications of the topic? Relate your analysis to a variety of the topics we discuss throughout the term (e.g. legal/ethical issues; policy implications; technological implications; security implementation)
  - Conclusion (< 2 minute) – identify possible implications or "unknowns" related to the security aspects of your topic of interest

Important Dates:
1/8 First group meeting
1/29 Project proposal submission
3/19 Interim check with instructor

4/9, 16 Group project presentation
4/23 Final deliverables submission deadline

Additional Course Policies

Missing Exams

There are no make-up exams for this course. However, if you are unable to take an exam due to an emergency, you must inform the instructor of that fact *on or before* the day of the exam and arrange for a make-up to be administered before the graded exam is returned to the class. Any student requiring a make-up has to document his/her excuse (e.g., a letter from a physician written on the physician's letterhead). Please note that *in no event will a make-up test be given after the graded exam is reported to the class*.

Late Assignments

1. All assignments due by 11:59 PM on the due date indicated in the course schedule. For each day that the assignment is late, there will be point deductions (1-day, 50% deduction) from the assignment's score. No extra assignments are permitted for additional credit in this course unless assigned by the instructor to the entire class.
2. Assignment Submission: All lab assignments are to be submitted through the Canvas system When the Canvas system does not work, it can be submitted through email. For the email submission, only FAU email account is valid for the assignment submission. Email submission through other email providers such as gmail, yahoo and etc will not be checked.
3. Format of Email Submission: The following format must be used when submitting assignments. In the "Subject" line of your email must indicate the followings: ISM4320 YourName NameOfDeliverable Example: *ISM4320 – John_Doe -- Project Proposal.*

Attendance Policy

Although regular roll calls will not be administered, attendance will be taken randomly and unannounced in class. The attendance record can affect your grade as follows:

- Those who are recorded absent two (2) times will get *-3 pts* from the total grade.
- Those who are recorded absent three (3) times will get *-6pts* from the total grade.
- Those who are recorded absent four (4) times will get -*9pts* from the total grade.
- Those who are recorded absent more than four (4) times should have a meeting with the instructor.

* Students are expected to attend all of their scheduled University classes and to satisfy all academic objectives as outlined by the instructor. The effect of absences upon grades is determined by the instructor, and the University reserves the right to deal at any time with individual cases of non-attendance.

Students are responsible for arranging to make up work missed because of legitimate class absence, such as illness, family emergencies, military obligation, court-imposed legal obligations or participation in University approved activities. Examples of University-approved reasons for absences include participating on an athletic or scholastic team, musical and theatrical performances and debate activities. It is the student's responsibility to give the instructor notice prior to any anticipated absences and within a reasonable amount of time after an unanticipated absence, ordinarily by the next scheduled class meeting. Instructors must allow each student who is absent for a University-approved reason the opportunity to make up work missed 3 without any reduction in the student's final course grade as a direct result of such absence.

Final Letter Grading

Final letter grade will be posted before May 3rd, students are responsible for checking their final letter grade. After May 3rd final letter grade will not be changed.

Course Outline

Week	Date	Topics	Reading	Others
1	1/8	Overview		
2	1/15	Introduction to Security, and Malware Attacks	CH1, CH2	Lab1
3	1/22	Application and Network Attacks	CH3	Lab2
4	1/29	Vulnerability Assessment, Risk Mitigation, and Business Continuity	CH13, CH14, CH15	Lab3
5	2/5	**Exam1**		
6	2/12	Host, Application, and Data Security	CH4	Lab4
7	2/19	Network Security, and Administering a Secure Network	CH7, CH8	Lab5
8	2/26	Wireless Network, and Mobile Device Security	CH9, CH10	Lab6
9	3/5	**Spring Break**		
10	3/12	**Exam2**		
11	3/19	Access Control Fundamentals	CH11	Lab7
12	3/26	Authentication and Account Management	CH12	Lab8
13	4/2	Basic Cryptography, and Advanced Cryptography	CH5, CH6	Lab9
14	4/9	**Group Project Presentation**		
15	4/16	**Group Project Presentation**		
16	4/23	**Reading Days**		
17	4/30	**Exam3**		

*This course outline is subject to change, depending on class pace and needs.
**Instructor reserves the rights to make any changes needed.
***Students are responsible for being familiar with any revisions.

Selected University and College Policies

Code of Academic Integrity Policy Statement
Students at Florida Atlantic University are expected to maintain the highest ethical standards. Academic dishonesty is considered a serious breach of these ethical standards, because it interferes with the university mission to provide a high quality education in which no student enjoys an unfair advantage over any other. Academic dishonesty is also destructive of the university community, which is grounded in a system of mutual trust and places high value on personal integrity and individual responsibility. Harsh penalties are associated with academic dishonesty.

For more information, please see FAU Regulation 4.001 at: FAU Regulation 4.001.

Disability / Accessibility Policy Statement
In compliance with the Americans with Disabilities Act Amendments Act (ADAAA), students who require reasonable accommodations due to a disability to properly execute coursework must register with Student Accessibility Services (SAS)—in Boca Raton, SU 133 (561-297-3880); in Davie, LA 131 (954-236-1222); or in Jupiter, SR 110 (561-799-8585) —and follow all SAS procedures. Their web site is: https://fau.edu/sas.

Counseling and Psychological Services (CAPS) Center
Life as a university student can be challenging physically, mentally and emotionally. Students who find stress negatively affecting their ability to achieve academic or personal goals may wish to consider utilizing FAU's Counseling and Psychological Services (CAPS) Center. CAPS provides FAU students a range of services – individual counseling, support meetings, and psychiatric services, to name a few – offered to help improve and maintain emotional well-being. For more information, go to http://www.fau.edu/counseling/

Religious Accommodation Policy Statement
In accordance with rules of the Florida Board of Education and Florida law, students have the right to reasonable accommodations from the University in order to observe religious practices, observances, and beliefs with regard to admissions, registration, class attendance and the scheduling of examinations and work assignments.

For further information, please see FAU Regulation 2.007 at: FAU Regulation 2.007.

University Approved Absence Policy Statement
In accordance with rules of the Florida Atlantic University, students have the right to reasonable accommodations to participate in University approved activities, including athletic or scholastics teams, musical and theatrical performances and debate activities. It is the student's responsibility to notify the course instructor at least one week prior to missing any course assignment.

Incomplete Grade Policy Statement

A student who is passing a course, but has not completed all work due to exceptional circumstances, may, with consent of the instructor, temporarily receive a grade of incomplete ("I"). The assignment of the "I" grade is at the discretion of the instructor, but is allowed only if the student is passing the course.

The specific time required to make up an incomplete grade is at the discretion of the instructor. However, the College of Business policy on the resolution of incomplete grades requires that all work required to satisfy an incomplete ("I") grade must be completed within a period of time not exceeding one calendar year from the assignment of the incomplete grade. After one calendar year, the incomplete grade automatically becomes a failing ("F") grade.

Withdrawals

Any student who decides to drop is responsible for completing the proper process required to withdraw from the course.

Disruptive Behavior Policy Statement

Disruptive behavior is defined in the FAU Student Code of Conduct as *"... activities which interfere with the educational mission within classroom."* Students who behave in the classroom such that the educational experiences of other students and/or the instructor's course objectives are disrupted are subject to disciplinary action. Such behavior impedes students' ability to learn or an instructor's ability to teach. Disruptive behavior may include, but is not limited to: non-approved use of electronic devices (including cellular telephones); cursing or shouting at others in such a way as to be disruptive; or, other violations of an instructor's expectations for classroom conduct.

Faculty Rights and Responsibilities

Florida Atlantic University respects the right of instructors to teach and students to learn. Maintenance of these rights requires classroom conditions which do not impede their exercise. To ensure these rights, faculty members have the prerogative:

- To establish and implement academic standards
- To establish and enforce reasonable behavior standards in each class

To refer disciplinary action to those students whose behavior may be judged to be disruptive under the Student Code of Conduct.