

# CSCI 563 INFORMATION SECURITY (SPRING 2020)

(Last updated: December 29, 2019)

## INSTRUCTOR

Instructor: Jino Kim, Ph.D.

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Office hours: TBD (will be announced through course Web page)

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## CLASS MEETING

Section: 01E

Location: CS/JOUR 104

Time: W 11:00AM–1:40PM (3 credits)

## COURSE DESCRIPTION

This course provides an introduction to the study of information security and covers the most important features of computer security. Topics include basic concepts and principles in information security, authentication and access control, operating systems security, software vulnerabilities and threats, database security, and basic cryptography including encryption and key establishment.

## EXPECTED STUDENT LEARNING OUTCOMES

- Define the basic concepts in information security, including security goals and principles for confidentiality, integrity, and availability
- Evaluate authentication and access control models and mechanisms
- Enumerate security functions provided by operating systems such as Windows and UNIX
- State vulnerabilities and threats to software including buffer overflows and source of attacks including viruses and worms
- State database vulnerabilities and threats including SQL injections and statistical database
- Explain how to use cryptography for encryption, authentication, and integrity for communication security

## PREREQUISITES

- None

## COURSE MATERIAL

- **[GT] Introduction to Computer Security**, Michael T. Goodrich and Roberto Tamassia, 1st edition, Pearson, ISBN 10: 0321512944 (Required)
- **[PP] Security in Computing**, Charles P. Pfleeger and Shari Lawrence Pfleeger and Jonathan Margulies, 5th edition, Prentice Hall, ISBN 10: 0134085043 (Reference)

## GRADING (TENTATIVE)

Assignments	20%	A: 90 or above
Midterm Exam	25%	B: 80 – 89.x
Final Exam	30%	C: 70 – 79.x
Class Participation	25%	D: 60 – 69.x
		F: Below 60

## CLASS ATTENDANCE POLICY

Class attendance is mandatory. Student is tardy if one enters the class late or leaves before the class is dismissed, and three tardies are considered as one absence. Absence from class more than three times may result in a failing grade.

For more information about the attendance policy please visit the Attendance webpage and Procedure 13.99.99.R0.01.

<http://www.tamuc.edu/admissions/registrar/generalInformation/attendance.aspx>

<http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/13students/academic/13.99.99.R0.01.pdf>

## LATE POLICY

The deadline for the **written assignment** can be extended with a 15% penalty per day. No deadline can be extended by more than two days. Assignments will NOT be accepted 48 hours after the due date. No deadline extension will be given for non-written assignments (e.g., programming, data analysis assignments).

## MAKEUP POLICY

There will be no makeup exams/assignments in general. Makeup chances may be given to students under extreme circumstances, such as hospitalization, serious injury, death in the family, etc, with prior notification and valid documents. No makeup allowed for other than exams and assignments.

## COLLABORATION POLICY

Students are encouraged to talk to each other, to the instructor, or to anyone else about any of the assignments. Any assistance, though, must be limited to discussion of the problem and sketching general approaches to a solution. *Each student must write out his or her own solutions to the homework.* Consulting another student's or group's solution is prohibited, and submitted solutions may not be copied from any source. These and any other form of collaboration on assignments constitute cheating. If you have any question about whether some activity would constitute cheating, please feel free to ask.

## ACADEMIC INTEGRITY

Students at Texas A&M University-Commerce are expected to maintain high standards of integrity and honesty in all of their scholastic work. For more details and the definition of academic dishonesty see the following procedures:

Undergraduate Academic Dishonesty 13.99.99.R0.03

<http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/13students/undergraduates/13.99.99.R0.03UndergraduateAcademicDishonesty.pdf>

Graduate Student Academic Dishonesty 13.99.99.R0.10

<http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/13students/graduate/13.99.99.R0.10GraduateStudentAcademicDishonesty.pdf>

Anyone cheating will receive a zero on the work they are doing, and subsequent cheating will result in a failing grade.

### **STUDENTS WITH DISABILITIES**

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you have a disability requiring an accommodation, please contact:

Office of Student Disability Resources and Services

Texas A&M University-Commerce

Gee Library, Room 132

Phone (903) 886-5150 or (903) 886-5835

Fax (903) 468-8148

Email: [Rebecca.Tuerk@tamuc.edu](mailto:Rebecca.Tuerk@tamuc.edu)

Website: Office of Student Disability Resources and Services

<http://www.tamuc.edu/campusLife/campusServices/studentDisabilityResourcesAndServices/>

### **BASIC TENETS OF COMMON DECENCY**

All students enrolled at the University shall follow the tenets of common decency and acceptable behavior conducive to a positive learning environment. The Code of Student Conduct is described in detail in the Student Guidebook.

<http://www.tamuc.edu/admissions/registrar/documents/studentGuidebook.pdf>

The syllabus/schedule are subject to change.

Students should also consult the Rules of Netiquette for more information regarding how to interact with students in an online forum: Netiquette

<http://www.albion.com/netiquette/corerules.html>

### **SMOKE, VAPOR & TOBACCO FREE ENVIRONMENT**

University Procedure 34.05.99.R1 now prohibits the use of vapor/electronic cigarettes, smokeless tobacco, snuff and chewing tobacco inside and adjacent to any building owned, leased, or operated by A&M – Commerce.

### **NONDISCRIMINATION NOTICE**

Texas A&M University-Commerce will comply in the classroom, and in online courses, with all federal and state laws prohibiting discrimination and related retaliation on the basis of race, color, religion, sex, national origin, disability, age, genetic information or veteran status. Further, an environment free from discrimination on the basis of sexual orientation, gender identity, or gender expression will be maintained.

### **CAMPUS CONCEALED CARRY**

Texas Senate Bill - 11 (Government Code 411.2031, et al.) authorizes the carrying of a concealed handgun in Texas A&M University-Commerce buildings only by persons who have been issued and are in possession of a Texas License to Carry a Handgun. Qualified law enforcement officers or those who are otherwise authorized to carry a concealed handgun in

the State of Texas are also permitted to do so. Pursuant to Penal Code (PC) 46.035 and A&M-Commerce Rule 34.06.02.R1, license holders may not carry a concealed handgun in restricted locations. For a list of locations, please refer to ((<http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/34SafetyOfEmployeesAndStudents/34.06.02.R1.pdf>) and/or consult your event organizer). Pursuant to PC 46.035, the open carrying of handguns is prohibited on all A&M-Commerce campuses. Report violations to the University Police Department at 903-886-5868 or 9-1-1.

## **DISCLAIMER**

This syllabus is meant to provide general guidance of what to expect from this course. The instructor reserves the right to make changes as appropriate based on the progress of the class. All changes made to this syllabus during the semester will be announced. This document has been posted electronically. If you print a copy of it, please be sure to consult the last modified date of the online version to verify that your printed copy is current.

## SCHEDULE (TENTATIVE)

WEEK NO.	CONTENT	READING
1	Course introduction, Security goals	Syllabus, Ch1.1.1-1.1.2
2	Fundamental concepts and access control models	[GT] Ch1.1.3-1.2
3	Cryptographic concepts, usable security	[GT] Ch1.3-1.4
4	Physical security	[GT] Ch2
5	OS security (part 1)	[GT] Ch3.1-3.3
6	OS security (part 2)	[GT] 3.4
7	Malware (part 1)	[GT] Ch4.1-4.2
8	Malware (part 2)	[GT] Ch4.3-4.5
9	Midterm Exam	--
10	Network security (part 1)	[GT] Ch5.1-5.4
11	Network security (part 2)	[GT] Ch5.5, Ch6.1-6.2
12	Network security (part 3)	[GT] Ch6.3-6.5
13	Web security	[GT] Ch7.1-7.3
14	Course review	--
15	Final Exam	--