CSE 410/565 Computer Security

Dates: 1/30/2022 - 5/10/2022
Time: Monday Wednesday 4:00 PM - 5:20 PM

Instructor: Dr. Ziming Zhao
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Office Hours: Monday 2:30 PM - 3:30 PM or by appointment
You will need to log in to UB Zoom before you join the office hours at
https://buffalo.zoom.us/j/95299258797?pwd=QlBhbjJIUlM5WmlETmFtOE5qT1Z5dz09

TA: Md. Armanuzzaman Tomal
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Office Hours: Wednesday 2:30 PM - 3:30 PM or by appointment
You will need to log in to UB Zoom before you join the office hours at
https://buffalo.zoom.us/j/95299258797?pwd=QlBhbjJIUlM5WmlETmFtOE5qT1Z5dz09

1 Course Description

The objectives of this course consist of developing a solid understanding of fundamental principles of the security field and building knowledge of tools and mechanisms to safeguard a wide range of software and computing systems. It is intended for upper-level undergraduate and graduate students, and a tentative list of the covered topics is: cryptographic background and tools; access control; authentication; software security, malware; Internet security protocols and standards (SSL/TLS, IPsec, secure email); intrusion detection and intrusion prevention systems (firewalls); database security; privacy; identity management; security management and risk assessment; legal and ethical aspects (cybercrime, intellectual property)

2 Grading Policy

Grading for this course will be based on homework assignments and projects (HW), one midterm exam (ME), and the final exam (FE). There will be six homework assignments, some of which will be programming assignments. Attendance check will be performed in each week. Table 2 shows the grade breakdown.

Area	No. Items	Points per Item	Points for Area
Homework	6	60	360
Exams	2		630
Midterm	1	250	
Final	1	380	
Attendance	14	1	14
Anonymous Course Evaluation Bonus	2	10	20
Total			1024

Table 1: Grades Breakdown

3 Textbooks

Required textbook:

- William Stallings and Lawrie Brown, Computer Security: Principles and Practice, 4th edition, Pearson, 2017.

Points	Grade
930 -	A
900 - 930	A-
870 - 900	B+
830 - 870	B
800 - 830	B-
770 - 800	C+
700 - 770	C
670 - 700	D+
600 - 670	D
0 - 600	F

Table 2: Final Letter Grades

Additional resources:

- Charles Pfleeger and Shari Pfleeger, Security in Computing.
- William Stallings, Cryptography and Network Security, Principles and Practice.
- Charlie Kaufman, Radia Perlman, and Mike Speciner, Network Security: Private Communication in a Public World.
- Edward Skoudis and Tom Liston, Counter Hack Reloaded: A Step-by-Step Guide to Computer Attacks and Effective Defenses.
- Ross Anderson, Security Engineering: A Guide to Building Dependable Distributed Systems.

4 Course Policies

- Lectures and quizzes
  - Lectures will be posted on the course web page.
- Homework assignments
  - All assignments must be done individually unless announced otherwise; no collaboration on solving or writing assignments.
  - Searching for homework answers online is not permitted.
  - The use of any external resources should be properly documented when answering the question (i.e., not at the end of the homework) and the nature of the help the document provided (i.e., what information it contained and how it helped with answering the question).
  - If you come across an answer to a homework question online, you receive 70% of the question's credit.
  - Homeworks will be submitted via UBlearns; they must be typed (diagrams can be hand-drawn) and normally would need to be submitted as a PDF.
- Late submissions
  - Late submissions in 48 hours will be accepted with a 15% (24 hours late) and 30% (48 hours late) penalty, respectively. Late submissions beyond 48 hours will not be accepted.
- Grading

  - Homework or exam regrade requests need to be submitted within two weeks of releasing the graded material to the class.
  - The request needs to be in writing clearly describing the error in grading.

- Course materials
  - Sharing of the course materials provided by the instructor with someone who is not currently enrolled in this course or in a forum accessible to someone not currently enrolled in this course is not allowed without the instructor's permission.

5 Plagiarism and Cheating

Plagiarism or any form of cheating in homework or exams is subject to serious academic penalty. As an institution of higher learning, UB expects students to behave honestly and ethically at all times, especially when submitting work for evaluation in conjunction with any course or degree requirement. All students are encouraged to become familiar with UB's Academic Integrity Policy (`https://www.buffalo.edu/academic-integrity.html`), Honor Code, and Student Conduct Policy. There is a zero tolerance policy in this class. Any violation of the academic integrity policy will result in a `0` on the homework, lab or assignment, and even an `F` or `>F<` on the final grade. The violation will be reported to the department chair and the Dean's office. The instructor takes plagiarism very seriously, e.g., in Spring 2018, two students received an `F` for plagiarism behaviors.

6 Syllabus Update

Information in the syllabus may be subject to change with reasonable advance notice.