SY485C: Cloud Security and Cryptography
Course Policy

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Learning Objectives

Students will be able to:

1. Understand the unique security and performance concerns that exist when deploying a system in the cloud
2. Identify appropriate cryptographic tools for mitigating security concerns for a particular cloud application
3. Read and understand technical research in cryptography, particularly in the form of academic or white papers
4. Show proficiency in programming simple cryptographic applications
5. Effectively present technical research to their peers, both in the form of an oral presentation and a written report

Course Resources

The website for this course is located at http://courses.cyber.usna.edu/~mayberry/SY486C. Since the material covered in this class includes recent research and advanced topics in cryptography and cloud security, there is no textbook. Primary references, including research and white papers, will be posted on the website for each unit of the course. Additionally, notes and slides will be posted on the website when applicable.

We will also make use of Piazza to facilitate discussion outside of class. Students can post questions at any time and I will answer as soon as possible. If something is confusing for one person, it is probably confusing for others so this will allow me to answer questions in one location so that everyone can see it. The course Piazza page can be found at piazza.com/usna/spring2019/sy486c.

Extra Instruction

Since there is no textbook, taking notes in class is extremely important. If a student misses class for any reason they should arrange to get notes from another student and/or meet with me to discuss what was missed.

I am available for EI by appointment, but usually I am free Mon/Wed/Fri periods 2, 5 and lunch. I am also happy to talk on Google Hangouts in the evening. If I am online feel free to message me, but I prefer an email in advance to schedule a time.

Questions about the course material or assignments that are not about individual grades should be posted to Piazza rather than being emailed to me directly.

Grading Policy

Homework (40%): There will be a homework assignment approximately every two weeks. These assignments will be the majority of the work for this course. As such, each assignment will require 3-5 hours of work outside of class. Assignments will be posted on the website, and students will have two weeks to complete each one.

Some homework will include programming problems. Students may complete these assignments in any programming language that they wish, as long as the tools to run the code are publicly available so that I can actually test it and see that it works.

Readings (20%): One of the objectives of this course is to prepare students to read and understand technical research on their own. To support this, we will read approximately one research paper per unit. It is not expected that students will entirely understand these papers! Your reading grade will be based on **posting three questions** on Piazza per assigned reading, by the date of the reading. You will then go back after the discussion and answer your own questions, demonstrating your understanding of the topic.

Final Presentation (15%): Students will choose one topic (from a list I will give, or chosen on their own) that we did not cover in class and present it to their peers in a 25-minute talk.

Final Report (15%): Accompanying the presentation, students will write a survey paper covering their chosen topic.

Final Exam (10%): The final exam will be comprehensive over the course.

Late work: Homework may not be submitted late unless prior arrangement is made with me.

Collaboration Policy

Students may collaborate with each other for homework assignments. All collaboration **must be cited** on said assignments. In this course, collaboration includes discussing course material and approaches to solving the problems but **does not** include copying directly from another students written work or code. After discussing, each student should write their own problem solution or their own code. If a student is having trouble with their code or the written solution to a problem, EI is appropriate. Collaboration will not be allowed on the final report/presentation.

Submitted,
Travis Mayberry

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Course Coordinator

Approved,
CDR Tracy Emmersen

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Department Chair