COMP 434/534: COMPUTER AND NETWORK SECURITY
(Spring 2023 Syllabus)

Instructor: Alptekin Küpçü

TAs: TBA.

Office Hours: Check course calendar.

Webpage: http://courses.ku.edu.tr/comp434/

E-mail: Always send email to comp434ta-group@ku for course-related questions. **All other emails will be ignored!**

Prerequisite: Operating Systems and Computer Networks concepts, Programming, as well as some Database and Cryptography background. Those courses are not direct prerequisites to this course, and some brief introduction to many of these concepts will be given. However, a more rigorous background in those areas will improve your learning during this course.

Topics:
- Security Principles.
- Basic Cryptographic Primitives.
- System Security, Malware.
- Network Security, Web, Privacy.
- Physical Security, Mobile Security, Applications Security.
- Machine Learning Security.

Course Objectives:
1. To teach about basics of computer and network security principles that you can apply at home on your own, or as a system administrator at a company.
2. To increase awareness on security concepts, and thus to provoke interest in further effort in the area, through graduate studies or by joining companies or government organizations who need security experts.
3. To facilitate the idea that some things are impossible to secure, and the strongest and weakest line of defense is the human.

Learning Outcomes: At the end of this course, you will be able to

1. apply basics of computer and network security principles at home on your own, or as a system administrator at a company.
2. apply for computer and network security related positions at companies or government organizations, as well as graduate schools.
3. increase awareness among your friends and colleagues related to computer and network security concepts.
4. make informed decisions when it comes to computer and network security issues.

Text Books: Goodrich & Tamassia, "Introduction to Computer Security", 1st International Edition, Pearson. ISBN: 978-0-321-70201-2 (required)
Richard R. Brooks, "Introduction to Computer and Network Security Navigating Shades of Gray", CRC Press. ISBN: 978-1-4398-6071-7 (recommended)

Grading: Assignments (40%), Exam/Quizzes (30%), Final Project (30%).

- Catalog-like system, no curve grading. This means, others' performance does not affect your grade.
- Grading objection must be done within the announced time period.
- You have to request makeup by indicating your approved health report.

Code of Conduct:

Attendance: Please do not step in and out of the classroom when the lecture/lab is in progress (in important cases, ask for my permission *ahead of time*). TAs have the same authority as the instructor, and hence you must follow their rules as well.

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Device Use: Use of devices such as laptops, cell phones, or similar devices is **strictly forbidden** in the classroom.

Assignments: **Late assignments will not be accepted unless you have my permission well ahead of time** with a valid excuse. Do not ask for an extension when it is close to the deadline; such requests will not be granted. Hand-written solutions will be accepted as long as they are legible. It is our right to cut off grade points if we cannot read your answer.

Mandatory: For each assignment, you must sign the following (otherwise your assignment will not be graded):
"I hereby declare that I have completed this individually, without support from anyone else. I hereby accept that only the below listed sources are approved to be used:
(i) Course textbook,
(ii) All material that is made available to me via Blackboard for this course,
(iii) Notes taken by me during lectures.
I have not used, accessed or taken any unpermitted information from any other source. Hence, all effort belongs to me."
ID Number, Name Surname, Date, Signature (all written with blue pen).

Cheating: Do not cheat. We employ **cheating detection tools** that can easily detect cheating. By national and university-wide rules, any cheating *attempt* may be penalized with **one semester suspension** from the university. The Koç University Student Code of Conduct includes, but is not limited to, the following: Your work needs to be your own. It cannot be joint work with any other person (in the class or not). You cannot have someone do the assignment for you (paid or not). You cannot submit an assignment that is based on submissions in earlier semesters. You cannot use a solution manual, or an online solution to the question. To get a grade (other than F) in this course, you must fully comply

with the Koç University Student Code of Conduct:
`https://apdd.ku.edu.tr/en/academic-policies/student-code-of-conduct/`
Attending any Koç University course means you have read and agreed to this conduct, the course syllabus, and honor codes. Failure to comply will result in **a direct F for your letter grade for the course and disciplinary action**.

How to Succeed:

1. You need to do **lots of reading**. Do not expect to understand hard topics without reading from *multiple* sources.

2. Make sure to do the assignments yourself, without finding the solution somewhere else.

3. You need to solve **more exercises than the ones assigned**. The assignments will help, but they will **not** be enough to guarantee success.

4. If you did not understand a particular topic, **ask** before we switch to the next topic. **Work regularly**.

5. Failure to notice an announcement is not an excuse. It is your responsibility to keep up-to-date with the course material.

6. Your learning will improve if you join in-class discussions.

7. **Do not cheat.**