# Computer Systems Security
## ENEE 457 (Fall 2021)

## Lecture Information

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| **Lectures:** | MW 11:00am-12:15pm | EGR 0108 |
| **References:** | *Introduction to Computer Security*, Goodrich and Tamassia, Addison Wesley, 2011 | |
| | *Introduction to Modern Cryptography, 3rd Edition*, Katz and Lindell, Chapman & Hall/CRC 2020 | |
| | *Cryptography and Network Security: Principles and Practice*, 6th Edition Stallings, Pearson 2014 | |
| **Class URL:** | `http://www.ece.umd.edu/~danadach/` | |
| | `Security_Fall_21/` | |
| **Instructor:** | Dr. Dana Dachman-Soled | |
| | Office: 5238 Iribe | Email: `danadach@umd.edu` |
| **Office Hours:** | Mon 1-2pm, Fri 10-11am | or by appointment. |
| **TAs:** | Pranjal Atrey | Email: `patrey@terpmail.umd.edu` |
| | Zahra Zarejousheghani | Email: `zzare@terpmail@umd.edu` |
| **TA Office Hours:** | Pranjal: Thurs 12-1pm | Location TBA |
| | Zahra: Wed 12:30-1:30pm | Location TBA |

## Important Dates

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| August 30 | Monday | First lecture |
| September 6 | Labor Day | No lecture |
| September 13 | Monday | Last day to drop course without a "W" |
| November 24-November 28 | Thanksgiving Recess | No Lecture |
| December 13 | Monday | Last day of class |
| December 17 | Friday | Final exam (8:00am-10:00am) |

If you have a documented disability and wish to discuss academic accommodation, please contact me as soon as possible and before **September 13, 2021**.

If you are experiencing difficulties in keeping up with the academic demands of this course, contact the Learning Assistance Service, 2201 Shoemaker Building, 301-314-7693. Their educational counselors offer help with time management, reading, note-taking and exam preparation skills.


**COVID related announcements.** As members of the UMD community, we care about keeping each other safe and healthy–which includes reducing unintended spread of COVID19 among ourselves and those we encounter. Toward this end, Prince Georges County and UMD health guidelines currently require that all campus members, regardless of their vaccination status, must wear face coverings over the nose and mouth while indoors. This is critically important when spending time indoors in classrooms. President Pines provided clear expectations to the University about wearing face coverings indoors; there are no exceptions to this requirement.

To ensure community health and safety, I ask that you follow this mandate. Per UMD policy, students who arrive to class not wearing a mask will be notified and given a choice between putting on a mask and remaining in class or leaving the classroom immediately. Students who have additional issues with the mask expectation after a first warning will be referred to the Office of Student Conduct for failure to comply with a directive of University officials.

If the Prince Georges County-wide and UMD indoors mask mandates are lifted during this semester, there is still a requirement that unvaccinated students with approved exemptions must wear face masks at all times while indoors (as well as undergo COVID19 testing twice per week). This requirement is designed to protect these students' health, and the same classroom policy will apply.

## Grading Policy

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| Programming Projects | 35% | 7%, 7%, 7%, 7%, 7% |
| Homework Exercises | 6% | |
| In-Class Labs | 9% | |
| Midterm Exam | 25% | (Tentative date: Wednesday, October 21) |
| Final Exam | 25% | Fri. Dec. 18, 8am-10am |

Students can earn Extra Credit in this course by giving a short (3-5 minute) class presentation on a news article relating to a topic covered in class. You may take advantage of this by e-mailing the instructor with a link to the relevant news article and a brief explanation of how the article relates to the topic covered in class.

An additional Extra Credit Opportunity, consisting of reading a scholarly paper chosen from a list of approved papers and writing a critical summary, will be posted after the midterm exam.

## Exams:

– All exams will be closed book, closed notes, no calculators or PDAs, and please turn off cell phones.
– Students who cannot take an exam at the scheduled time for religious reasons should contact the instructor before September 13 to schedule a makeup exam. Students who cannot take an exam at the scheduled time for other reasons should get permission from the instructor least 48 hours before the time. If illness or other emergency prevents taking the exam at the scheduled time, students need to present suitable documentation in order to schedule a make-up exam.
– If you would like to discuss the grading of your midterm exam, you should contact the instructor no later than a week after the exam was returned.

## Course Webpage, Canvas and Piazza:

– The course webpage is used for posting homework and project assignments, announcements, lecture summaries and practice problems/class exercises.
– Canvas is used for posting recorded lectures (in case the instructor needs to miss a class), announcements, solutions, submissions of projects and homeworks, and for grading.
– Students may post *non-anonymous* discussion topics and questions related to the course material on Piazza. The instructor reserves the right to delete comments that are inappropriate or do not fall under the scope indicated above. Specifically, complaints or grievances related to the course, instructors, or TAs should be addressed to the instructor via private e-mail and not via Piazza.

## In-Class Labs:

– There will be 3-4 in-class labs assigned in the second half of the course.
– These will consist of an in-class tutorial guiding you through the first several tasks of the lab and one or two tasks remaining to be completed and submitted via Canvas.

## Projects and Homeworks:

– This course contains 5 programming projects and 2-3 homework assignments. Instructions will be posted on the course webpage and announced on Canvas at least one week before the due date. Projects/assignments should be submitted online via Canvas. Late submission will not be accepted without documentation supporting legitimate reasons.
– If you dispute your score on a project or homework, you must contact the TA within one week from the date that your project/homework is officially returned. If the matter remains unsettled, you have one more week to bring the issue to Dr. Dachman-Soled with a written request.

– It is acceptable, and you are encouraged, to discuss the projects/homeworks with others, but you must do the coding and/or final write-up by yourself (unless it is a group assignment). Both copying code/writeups and allowing others to copy your code/writeups will be considered as academic dishonesty.

## Build-It Break-It Project:

– The Build-It Break-It Project is an intensive, two-part programming project that constitutes Projects 4 and 5. (Build-It = Project 4 and Break-It = Project 5). You are expected to work individually on this project.
– Successful completion of the project requires correct invocation of the cryptographic primitives covered in the lectures and in Project 3. Therefore close attention should be paid to this part of the course.
– The details of the Build-It Break-It Project will be released soon after the midterm exam.
– It is very advisable for you to start working on this project immediately after it is assigned.

**Academic dishonesty:** The University Code of Academic Integrity, which can be found at `http://www.inform.umd.edu/CampusInfo/Departments/JPO/` prohibits students from committing the following acts of academic dishonesty: cheating, fabrication, facilitating academic dishonesty, and plagiarism. Academic dishonesty in this class includes outright copying on homework; however, discussing homework problems and exchanging tips is permissible and also encouraged. If there are any take-home exams, discussing the material with anyone, inside or outside of the class, is considered academic dishonesty. Instance of academic dishonesty will be referred to the Office of Judicial Programs.