General Information

Instructor

Matt Bishop   *Email*: mabishop@ucdavis.edu
Office: 2209 Watershed Science   *Phone*: (530) 752-8060
Office Hours: Mondays 1:30pm–2:00pm; Wednesdays 11:30am–12:00pm; Fridays 11:00am–12:00pm (please use the office hours Zoom link, *not* the class Zoom link); or by appointment (please send me email)

Teaching Assistant

Muwei Zheng   *Email*: mzheng@ucdavis.edu
Office Hours: Thursday 2:00pm–4:00pm

Lectures and Discussion Section

Lecture: MWF 3:10pm–4:00pm over Zoom (the link is on Canvas)
Discussion section: *to be arranged as needed*

Course Outline

Theoretical foundations of methods used to protect data in computer and communication systems. Access control matrix and undecidability of security; policies; Bell-LaPadula, Biba, Chinese Wall models; non-interference and non-deducibility; information flow and the confinement problem.

Course Goals

- Learn about the reference monitor and high assurance systems;
- Learn about the access control matrix model and its variants, and how it is used to analyze the security of classes of systems;
- Learn about the mathematics underlying security policies and their composition;
- Learn about the confinement problem and information flow; and
- Explore other topics of interest.

Prerequisite

ECS 235A, Computer and Information Security. ECS 150, Operating Systems, and ECS 120, Theory of Computation, are strongly recommended

Text

M. Bishop, *Computer Security: Art and Science*, 2nd Edition, Addison-Wesley Professional, Boston, MA (2018). ISBN: 978-0-321-71233-2.
Recommended: R. Anderson, *Security Engineering: A Guide to Building Dependable Distributed Systems*, 3rd Edition, John Wiley & Sons, Inc., New York, NY (2020). ISBN: 978-1-119-64281-7.

Class Web Site

To access the class web site, go to Canvas (http://canvas.ucdavis.edu) and log in with your campus login and password. Then go to ECS 235B in your schedule. I will post announcements, assignments, handouts, and grades there, and you *must* submit assignments there.

An alternate web site, http://nob.cs.ucdavis.edu/classes/ecs235b-2021-01, has all the handouts, assignments, and announcements. However, no grades or information about you will be available there.

Important Dates

First day of instruction: January 4, 2021
Last day to add: January 20, 2021
20-day drop deadline: February 1, 2021
Last day to opt for P/NP grading: March 12, 2021 (*extended from February 8, 2021*
Last day of instruction: March 12, 2019

PTA Numbers

The department policy on issuing PTAs is available at `https://cs.ucdavis.edu/graduate/current-students/faqs-current-grads`. If you need a PTA, please read that page, and follow the instructions there.

Grading

The intended weighting for grades is:

Homework	48%
Project	48%
Quizzes	4%

We reserve the right to change this weighting. If we do so, we will announce it.

Important. The grade E-NWS (sometimes called NWS or NS), which stands for "No Work Submitted", is *no longer a valid grade*. In cases where it would have been assigned in the past, we will give a grade of "F". Please be sure you *drop* this class rather than submit no work!

UC Davis Student Resources

UC Davis has developed a web site of student resources. The resources cover academic support, health and wellness, career and internships, and the campus community; It also addresses virtual classroom fatigue. The web site is `https://ebeler.faculty.ucdavis.edu/resources/faq-student-resources/`. Please consult it whenever you feel necessary. And as always, feel free to reach out to me, too. If I can't help, I will suggest people and places that might be able to.

Academic Integrity

The UC Davis Code of Academic Conduct, available at `https://ossja.ucdavis.edu/code-academic-conduct`, applies to this class. For this course, all submitted work must be your own. You may discuss your assignments with classmates or the instructor to get ideas or a critique of your ideas, but the ideas and words you submit must be your own. Unless *explicitly* stated otherwise, collaboration is considered cheating.

Also, remember to cite, and give the source for, anything you copy or paraphrase, as is standard academic protocol. Plagiarism is cheating.

Any cheating will be reported to the Office of Student Support and Judicial Affairs. They will deal with it appropriately.