

General Information

Instructor

Matt Bishop
Office: 2209 Watershed Science
Office Hours: to be arranged; or by appointment; or by chance

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Phone: (530) 752-8060

When you send me email, please *begin* the Subject field with “ECS 235B” so I see that the letter has to do with the class. I receive lots of email and, while I look at it all, I sometimes fall behind. When that happens, I skim the Subject fields to see which letters are very important. Putting “ECS 235B” at the beginning of the Subject field will tell me it is very important.

Teaching Assistant

Muwei Zheng
Office: to be arranged
Office Hours: to be arranged

Email: mzheng@ucdavis.edu

Lecture

Lecture: MWF 12:10pm–1:00pm in 107 Cruess

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 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;
- Understand the composition of policies;
- Learn about the confinement problem and information flow; and
- Explore other topics of interest.

Prerequisite

ECS 235A, Computer and Information Security or equivalent;
ECS 150, Operating Systems, and ECS 120, Theory of Computation, or their equivalents, 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. The alternate web site, <http://nob.cs.ucdavis.edu/classes/ecs235b-2025-02>, has all the handouts, assignments, and announcements.

Grading

There will be both homework and a project, which *tentatively* will each be weighted 50%. We reserve the right to change this. There will be no final examination. Extra credit is accumulated separately and is used to help determine whether to boost your grade should you be on a borderline. *It is not added into scores.*

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”. So please be sure you *drop* this class rather than submit no work!

PTA (Permission to Add) Numbers

The department policy on issuing PTAs is available at <https://cs.ucdavis.edu/graduate/policies> and click on “PTA Process and Expectations”. If you need a PTA, please read that and follow the instructions there. cannot issue PTAs; the department will decide if one should be issued, and then they will ask me if they should issue it.

Important Dates

First day of instruction: January 8, 2024

10-day drop deadline: January 22, 2024

Last day to add: January 24, 2024

Last day to opt for P/NP grading: March 5, 2024

Last day of instruction: March 15, 2024

See the quarter calendar at <https://registrar.ucdavis.edu/calendar/quarter> for more detailed information.

Academic Integrity

The UC Davis Code of Academic Conduct, available at <https://sja.ucdavis.edu/files/cac.pdf>, 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.

Remember to cite, and give the source for, anything you copy or paraphrase, as is standard academic protocol. Plagiarism is cheating and will be handled as such.

Any cheating will be reported to the Office of Student Support and Judicial Affairs.