Let’s Get the Hard Stuff Out of the Way

• Adding the class
  • The department policy controls who gets PTAs; it is available at [https://cs.ucdavis.edu/graduate/current-students/faqs-current-grads](https://cs.ucdavis.edu/graduate/current-students/faqs-current-grads) (scroll down to Registration; the third question is “How do I get a PTA for a class?”)
  • I can only issue PTAs in accordance with those directions (ie, only when the department asks me).
General Information

• Who we are
  • Instructor: Matt Bishop, office hours: to be arranged

• Goals:
  • Learn about research in computer security;
  • Study a real-world problem under a mentor whose organization has proposed the problem;
  • Learn to work as a member of a research team;
  • Learn how to shape a research project to have goals achievable in a limited time; and
  • Be exposed to people and organizations doing cutting-edge work in computer security.
General Information

• Prerequisites
  • Each student must have the ability, background, and motivation to carry out original research in cybersecurity and information assurance.
  • Students are expected to have a good background in computer science and some knowledge of computer security.
  • Each student is expected to bring significant expertise, interest, and experience in at least one relevant technical area.
General Information

• Class Web Site
  • It’s on Canvas; log in there, and go to ECS 289M
  • If you don’t have access and need it, please email me and I will add you
    • This *does not* mean you will be admitted to the course!

• A 2-Quarter Class
  • Students are expected and encouraged (but not required!) to sign up for ECS 289M in Spring Quarter
  • Projects take more than 1 quarter to complete
General Information

• General UC Davis resources
  • Cover health and wellness, virtual classroom fatigue, etc.
  • You can also come to me and I will either help or suggest where you can get help
  • Web site: https://ebeler.faculty.ucdavis.edu/resources/faq-student-resources/

• Academic integrity
  • Paramount!!! And plagiarism is a violation of academic integrity
  • Follow the UC Davis Code of Academic Conduct
    • Available at https://ossja.ucdavis.edu/code-academic-conduct
  • I report cheating to the Office of Student support and Judicial affairs; they handle it appropriately
COVID and the University

• Participate in the university's daily screening process by completing a Daily Symptom Survey.
• Participate in the university's testing program.
• Wear a well-fitted face covering that covers your nose and mouth at all times.
• Monitor the daily potential exposure report.
• Assist in the contact tracing process.

For more information, go to the Campus Ready web site.
INSuRE Project

• Focal activity: cybersecurity research class
  • INSuRE stands for Information Security Research and Education

• Sponsors propose problems
  • If selected, sponsor expected to provide guidance, feedback students in conjunction with faculty
  • Sponsor must agree that, if results merit publication, the research can be published
    • So far, no problems with doing this
Overview of Structure

1. Project bid
2. Project proposal
3. Literature review
4. Progress report and presentation
5. Final report, presentation for schools on semester system
   • Penultimate report, presentation for quarter system
6. Final report, presentation for schools on quarter system
Set-Up

• Faculty solicit research proposals from (potential) sponsors
  • Typically, a paragraph describing problem in general terms
  • Examples
    • Identifying ICS components in a network
    • Code variation as a defense against attacks
    • Analysis of proposed TCPcrypt protocol
• Sponsors then “pitch” the projects to the students
Research

• Students meet weekly with sponsor, faculty to report progress, challenges encountered and overcome, next week’s goals

• Goals may change based on challenges found
  • Allow sponsors to modify incremental research goals
  • Sponsors can apply intermediate results as work progresses
  • Students see their work being used
Reports

• Weekly progress reports

• Midterm progress report
  • Delivered as formal paper, presentation to all participating teams

• Final report
  • Also delivered to all teams

• Critical idea: document results, tools, datasets so that another team can pick up where this team left off
  • Teaches data curation
Reports and Dashboards

• Due at 11:55pm on the due date, unless stated otherwise
• Submit it on Canvas
  • I’ll give you comments and grades on Canvas too
  • None of this will be on the secondary web site; only on Canvas
• Don’t be wishy-washy in your write-up!
• Write it in good English; be clear and concise
  • An example of a good answer is on the web site
• Submit Powerpoint or PDF only; do not submit other formats!
Class

• Zoom fatigue

• Recordings
  • So if you are in a different time zone and can’t attend class, you can see the recordings

• Asking questions: speak up!
  • You can raise your hand and I will unmute you
  • You can ask in the chat room and I will answer