

CS530

Security Systems

Bill Cheng

<http://merlot.usc.edu/cs530-s10>

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Today's Topics

- Placement Exams
 - ▬ Replaces the old Diagnostic Exam
 - ▬ See web site for details
- Administrative Stuff
 - ▬ The instructor *cannot* give D-clearance
 - ▬ If you would like a D-clearance, please use the on-line D-clearance system
 - ▬ I will waived CS 402 pre-requisite if class is not full
- Review Course Organization
- Review Topics
- HW1
- Introduction

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Class Structure

- TuTh 9:30am - 10:50am in OHE 100D
- Instructor: Bill Cheng
 - ▬ Email: bill.cheng@usc.edu (24 hour turn-around)
 - ▬ Office Hours: M/Tu/Th 2:00pm - 3:00pm or by appointments in SAL 228
- TA: Leslie Cheung
 - ▬ Email: lccheung@usc.edu (24 hour turn-around)
 - ▬ Office Hours: (TBD)
- Grader: (TBD)
 - ▬ Email: (TBD) (24 hour turn-around)
 - ▬ Will hold office hours after grade notification

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Class Resources

- Class web page: <http://merlot.usc.edu/cs530-s10>
- ▬ Lecture notes posted here soon (hopefully) after class
- ▬ Homework assignments (programming)
- ▬ Reading list
- ▬ News section
- ▬ You should check this site regularly
- Google group
 - ▬ Student-to-student discussions about programming assignments
 - ▬ Exchanging *ideas* are allowed
 - ▬ Posting code is *not* allowed (short code segments to illustrate ideas are allowed; short means < 5 lines)
 - ▬ Instructor & TA will also post answers to questions here
 - if appropriate for whole class

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Course Readings

- Textbooks, not required
 - ▬ B. Schneier
 - ▬ *"Applied Cryptography: Protocols, Algorithms, and Source Code in C"*
 - may be out of print
 - ▬ Matt Bishop
 - ▬ *"Computer Security: Art and Science"*
- Research Papers
 - ▬ Available online
 - ▬ About 15 papers
 - may add papers as we go along
- Lectures based on textbooks
 - ▬ slides
 - ▬ lectures should be interactive

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Grading

- HW 30% 3 to 4 assignments (some programming)
- Lab 10% 10 assignments (hands-on)
- Paper 10% 5-page extended abstract
- Rowcall 3% starting with 4th week of classes
- Midterm 22% in class, Thu, 3/4/2010 (firm)
- Final 25% 8:00am - 10:00am, Tue, 5/11/2010 (firm)
- No extra credit
 - ▬ Try your best from the beginning
- HWs graded by the grader, termpaper proposal approved by the TA, termpaper and exams graded by the instructor

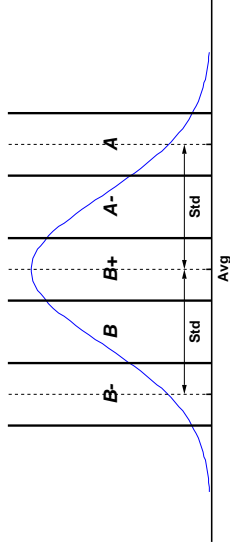
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Grading (cont...)

- Final grade assigned by the instructor
- On a curve, class average is probably a B+
- C's will likely be given, F's if necessary
- Loose guideline depicted below:



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Grading (cont...)

- Fairness
- Without fairness, grades have little meaning
- The instructor *must treat all students equally* and cannot give special treatment to any particular student
- Therefore, please do not ask special favors from the instructor because of your circumstances (except for ones that are explicitly allowed by the university)
- This may seem unfair to you because you believe that your circumstances are special (understandably, everyone does)
- But the rule the instructor must follow is that *whatever he offers you, he must offer to the entire class*

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Sign Row Sheet

- For *on-campus* students only
- If you are enrolled in the DEN section, you are not required to sign row sheets
- DEN students normally have a slight disadvantage that they can miss stuffs happening in the class
 - this is served as an "equalizer"
- Starting from *week 4*, each lecture is worth 1 point
- You should sign the row sheet as soon as you get into class
- If you come in between 9:41am and 10:00am, check *late* box
- If your signature is on the row sheet, you get the 1 point
 - provided that you do not leave before class ends
- If you have to leave before class ends, please e-mail me to have your signature removed or to get only half a point
- If you are sick or have a family emergency, please bring a note from a doctor to receive credit

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HW Assignments

- HW
- Small programming assignments
 - OpenSSL
 - C/C++ only
 - must compile and run on *nunki.usc.edu*
 - Makefile - *make* must work as is
 - many requirements, please see specifications
 - Electronic submission - gzipped tar of your source and documentation files
- Must be done *individually*
- You need to learn to be *very precise*
- know *every bit* that you are reading and writing
- know exactly what each function is doing and the meaning of all its *return codes*

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HW Assignments (Cont...)

- Grading of HW assignments will be *harsh*
- *Grading guidelines* will be posted one week before assignment due date
 - you do not get credit for simply coding, you get credit for making sure your code works according to spec
- We can only grade from our *grading account on nunki*
 - test your code from someone else's account
 - you are expected to check the running of your code against the grading guidelines
 - you should score *perfectly* since you know exactly how we will grade
 - *Do expect "double jeopardy"*

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Termpaper

- Termpaper
- E-mail *proposal* by deadline
 - to get your 3 references approved
 - strict requirements, please see the spec
 - to get some feedback from the TA
 - will lose *20%* of termpaper grade if miss deadline
 - 5 page extended abstract
 - references may flow onto page 6
 - You are welcome to start now
 - Acceptable formats are PDF and HTML
 - proprietary formats such as MS-Word or human-unreadable formats such as LaTeX source will be rejected
 - Must be done *individually*

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Lab

- Lab lectures: Fri 4:00pm - 4:50pm in RTH 105
 - make sure you attend the first lecture for administrative information
- Lab TA: David Morgan
 - Email: davidmor@usc.edu
- Lab Grader: Ranjeet Sangle <sangle@usc.edu>
- There will be 10 lab assignments
 - each lab is worth 1 point (pass/fail)
 - you must complete 8 out of 10 labs
 - the only possible total scores for the lab are 0, 8, 9, and 10
- Lab web page is at: <http://www-scf.usc.edu/~csci530/>

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Assignment Submissions

- Use *bsubmit* and the *Bistro* system (see web page for details)
 - Very important: [read output of bsubmit](#)
 - Very important: [verify your submissions](#)
- see the bottom of the Electronic Submission Guidelines web page for details
- if you forget a file, you are not allowed to resubmit it after the deadline
- Please do not delete or alter anything in your `~/bistro` directory. If you must delete your `~/bistro` directory, you must tar then gzip the content of your `~/bistro` directory and e-mail the resulting `tgz` file to the instructor:

```
cd ~/tar cvzf $(USER)-bistro.tgz .bistro
```

Delete the directory only after you get an confirmation e-mail from the instructor (or at your own risk)

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Late Policy

- Electronically Submitted Assignments
 - You can submit multiple times, only the last on-time submission will be graded (unless you send us e-mail)
 - 15 minutes grace period
 - 75% of your score if within one day late beyond grace period
 - Although in the first 50 minutes of this period, you will only lose 1% of your grade every 2 minutes
 - 0 otherwise
 - Time is based on *Bistro* server timestamp
- Extension *only possible* if you have a *note from a doctor* or other form of official proof of family emergencies
 - e.g., scheduling conflict with *work* will not be excused

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Modifications After Deadline

- After the submission deadline has past
 - You are allowed up to 3 lines of free changes, submitted via e-mail to the instructor, within 24 hour of the project submission deadline
 - clearly, this is not meant for major changes
 - you may want to anticipate that your submission may not be exactly what you thought you had submitted
 - One line (128 characters max) of change is defined as one of the following:
 - **add** 1 line before (or after) line `x`
 - **delete** line `x`
 - **replace** line `x` by 1 line
 - Additional modifications at 3 points per line (same deadline)
 - (cont...)

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Modifications After Deadline (cont...)

- After the submission deadline has past (cont...)
 - Afterwards, additional modifications cost **12 points per line** for the next 6 days
 - Afterwards, it costs **30 points per line**
 - Applies to source code, Makefile, and README files
 - do not forget to submit a file, *verify* your submission
 - Try things out before your first submission deadline to get familiar with the *Bistro* system
 - **Retest** your code after you have submitted

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Regrade Policy

- Grades will be sent to individuals via e-mail
 - You must register for the class mailing list
- Regrade requests in writing
 - Submit within 1 week of initial grade notification
 - must follow instruction in grade notification e-mail
 - Regrade can be done after the 1-week deadline, but you must *initiate* a regrade request within 1 week
 - We reserve the right to regrade the whole thing

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Scheduling Conflicts

- Midterm Exam
 - ▬ scheduling conflict with midterm exam must be resolved with the instructor at least one week before the exam
- Final Exam
 - ▬ scheduling conflict with final exam means
 - 1) you have another exam that overlaps in time with our final exam
 - 2) you have two or more other final exams on the same day
 - ▬ if you only have another final exam on the same day is *not* considered a scheduling conflict
 - ▬ scheduling conflict with *work* is *not* considered a scheduling conflict
 - ▬ Documented illness will get an incomplete grade

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Academic Integrity Policy

- The USC Student Conduct Code *prohibits plagiarism*
 - ▬ All work submitted for the class is to be *done individually*
 - ▬ Code fragments obtained from *public sources* (or code derived or adapted from them) must be *explicitly cited* to give credits
 - ▬ Code fragments obtained from *private sources* (or *previous semesters*) are *not allowed*
 - ▬ Code fragments done by yourself for other classes must be cited explicitly
 - ▬ For more details, please see the *Academic Integrity Policy* section on the *Course Description* web page

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Academic Integrity Policy (Cont...)

- You are encouraged to work with other students
 - ▬ "work with" does not mean "copy each other's work"
 - ▬ "work with" means discussing and solving problems together
 - this should happen at a *high level*
 - ▬ but be very careful when it's time to write code
 - must write code completely on your own
 - do not write code together
- If you cannot work together at a high level
 - ▬ you are advised not work together with other students

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Program Checker

- Do not submit someone else's code
- How do we catch cheaters?
 - ▬ We use MOSS to analyze your submissions
 - <http://theory.stanford.edu/~aiken/moss/>
 - ▬ Analyzes code structure intelligently
 - ▬ We also have *all* projects from several previous semesters

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Student Commitments

- Keep up with your reading
 - ▬ Complete relevant reading before class
 - ▬ Browse lecture slides before class
 - lecture slides will be available on-line before class
- Do your own work
- Turn in assignments on time
- Ensure gradable assignments
 - ▬ Programs must work on nunki.usc.edu
- You are encouraged to study with other students and *discuss* (no sharing) programming assignments
- You are encouraged to ask questions, pretty much about anything related to programming

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Student Commitments (Cont...)

- If you feel that you are falling behind
 - ▬ Talk to the instructor as soon as possible
- When you get stuck with programming
 - ▬ Ask the TA or the instructor for help
 - ▬ Don't wait too long
- Please do not ask these questions in e-mails:
 - ▬ Here is my understanding of X. Am I right? Is this correct?
 - ▬ find a different way to ask
 - ▬ I don't understand X. Could you explain X to me?
 - if you attended lectures, you can ask this during office hours
 - ▬ Here is what I am thinking of or doing... is it acceptable (or is this okay)?
 - can you ask this during exams?

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Study for Exams

- Exams mostly are based on lectures
 - Although I reserve the right to ask anything from required reading
- Exam questions are often of the form "in N words or less, please give the *best* answer for the following question"
 - you must choose your answer and put it at the beginning of your answer
 - generic answer usually gets you very little partial credit
 - better answer may get you more points
- Do not review all lectures only right before the exams
 - otherwise, you may only be able to give generic answers because everything is a blur
 - you need to show that you know the difference between answers of different quality

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Things to Do Today

- Read class web page: <http://merlot.usc.edu/cs530-s10>
 - Check course description and reading list
- Register yourself from the class home page to get on the *class mailing list*
- Check HW1 spec and *start coding*
- **Course Content Credit**
 - Slides and course content from:
 - Dr. Clifford Neuman
 - Dr. Brian Tung

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