Operating Systems I

- <u>Class web site</u>: http://www.cs.columbia.edu/~nieh/teaching/w4118
  most info from today's class is there.

- "Linux Kernel Development" book - <u>out of date</u>, but it's the best we have.

- Class will use a <u>Virtual Machine</u> - a VM will be provided.
  Recommended to use VMWare - available for free w/ a **CS** account.

- In the class we will be hacking an Android Linux version:
  will need Android device - <u>Huawei Honor 5X</u> → programming exercises in
  will be used around HW 3 onwards.   groups of 3 - each group
                                                       should have a phone.

- **HW** - first one individual, subsequent in groups of 3...
  (50% of grade, 6 HWs, lowest score dropped and only 5 best ones used)

- <u>Exams</u> - Midterm 20% (end of October) } closed book, cumulative, can
  Final 30% (at final's time) } use a calculator.

- <u>Homeworks</u>: Due by date/time specified on assignment, all weighed equally.
  Submitted w/ GIT at <u>github.com</u> (sign up for an account).

- **Learn to use git!** - learn how to submit HW properly! Only latest of multiple
  Also, make sure you commit and <u>push</u>!   submissions accepted as final.
  Solutions will be posted after every HW assignment.

- Write test cases and test code! Some test cases will be provided but more
  will be used for grading. Test for memory leaks, boundary cases, bad data.
  <u>Robustness</u> will be included in the grade! Doing the core part of the assignment
  really well is better than trying to cover a bunch of things w/ flaky code.

- Provide <u>citations</u> for anything used that does not come from:
  class, instructor, staff, books, Linux source code
  For ex., List <u>references</u> for web page searches used, etc. or if you discuss w/ others
  If you copy (cut/paste) something from the web but attribute it, then you may
  not get credit but it will not be considered plagiarism.

- Operating Systems: <u>Linux, Unix, Windows, iOS, FreeBSD, Solaris, Android, MacOS, Chrome OS, Ubuntu, Debian, Symbian, Redhat, ArchOS, CentOS, Kali, DOS, TinyOS, OxygenOS, Minix</u>

- What Constitutes <u>an Operating System</u>?
  - ▶ Virtualizes Hardware & provides API to software ⎫ ← definitions
  - ▶ Manages hardware resources (RAM, CPU)   ⎬   from class
  - ▶ Manages files & directories   ⎭

- <u>Functionality that counts as OS; what counts as part of OS:</u>

  Ex. Safari, is it part of OS? No?. But it comes w/ MacOS...
  Similar to Internet Explorer in Windows question: MS claimed it was part
  of the OS, government disagreed.