What did we do?

- OS theory
  - Usual OS topics: Concurrency, Synchronization, System calls, Interrupts, Run queues & wait queues, Scheduling, Virtual memory, File systems
  - But in the context of current Linux implementations
  - Skimmed/skipped the following:
    - Deadlock theory
    - I/O systems
    - Network file system (NFS); SSD
- Advanced UNIX programming
  - APUE book & multi-server assignments
  - Many advanced topics including:
    - Signal handling
    - Multi-threaded programming, concurrency, locking
    - Non-blocking I/O, select(), mmap()
    - IPC – pipes, shared memory, domain sockets

What else did we do?

- Linux kernel programming
  - HW1: intro to crazy OS-level C
  - HW5, *aka Fridge*: wait queues and kernel locking
  - HW6, *aka Freezer*: simple new scheduler for Linux
  - HW7, *aka Cabinet:* Linux page table structure
  - HW8, *aka Pantry*: simple file system from scratch!
  - We skimmed/skipped:
    - Interrupt handlers and bottom half
    - Kernel synchronization using RCU
    - Kernel memory management & block I/O layer
    - Virtualization

A gamer says to an OS student:

You should get into gaming!

OS student says:

Who needs game when you got grep.

Please

- Fill out CourseWorks evaluation
- Remember your pledge
  - Don’t share class materials with friends
  - Don’t post any class-related code to GitHub
  - Don’t post exams to CourseHero

The most important thing I learned was not be afraid.

That's a harder lesson to learn that it sounds, because the only way to really learn it is to do the things you think sound hard. . . . this was the biggest takeaway for me from the kernel development work in OS.

- Andrew Kiluk

Hack on!