

CS 3214 "Computer Systems"

Who am I: Dan Williams VT since Fall '21 / OS Researcher
IBM Research 10 years / \ /
operating systems

My perspective: research (improving security, perf, ...)
built an OS from scratch 2x
work in Linux kernel

<https://courses.cs.vt.edu/cs3214/fall2023>



- task manager
- registry
- PATH
- file system
- threads
- service
- kernel
- scheduler
- processes
- terminal
- libraries
- frameworks
- runtimes

What is that stuff & how does it work?

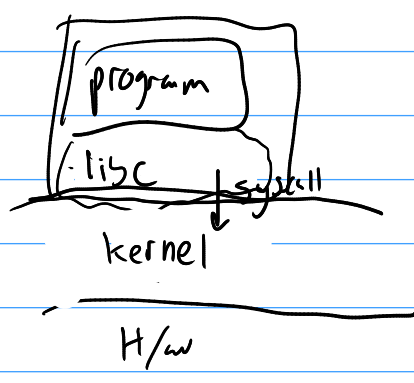
→ "I don't care as long as it works" → Systems knowledge/mental model will improve your programs

[[→ "I want to know it all" → how can improve the system



- Goal:
- build your mental model of the system
 - show you more mortals (like us) can understand systems
 - gain experience building many pieces ourselves

Touching the magic



system call: way to talk to ^{underlying system} H/w

Process: abstraction for a running program

The course: Dr. Godmer Buck since 2009
3 sections Buck, Butt, Williams
all infra shared: website, forum, chat, grouping, TAs, etc.

- Advice:
- come to class
 - plan your time
 - Don't Cheat!