CSCI-GA.2250-001

Operating Systems

Class Overview

Hubertus Franke
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Instructor

Who	Where
Hubertus Franke • Distinguished Research Staff Member @ IBM T.J. Watson Research Center in Yorktown Heights, NY (since 1993) • Ph.D. EE Vanderbilt University 1992 • Diplom/Master CS Karlsruhe Institute of Technology, Germany • Manager and Senior Manager of OS and Cloud 2001-2015 • IBM Master Inventor • IBM Academy of Technology • ACM Distinguished Engineer	Office hours: After Class @ 8:20PM – 9:20PM (just let me know before or right after class). Room: WWH 320 for 5:30PM In class room for after class Rm 1302

General Interests

Cloud Infrastructures
- OpenStack, EC2, ..

Operating Systems:
- Linux, AIX, object oriented OS (K42)
- Scheduling, memory management, ..

Computer Architecture:
- Multicore processors and Systems on a chip

High Performance Computing:
- MPI (Message Passing Interfaces)
- Gang Scheduling

Software Engineering, Compilers and Robotics.

~115+ publications in these areas

~65+ patents

Formal Goals of This Course

- What exactly is an operating systems?
- How does the OS interact with the hardware and other software applications?
- Main concepts of an OS
- OS in many contexts
- Designated C/C++ programming class
  - Please learn C/C++ on your own, but I will answer any questions you have
  - There are free classes online on NYU as well as on the web.

Informal Goals of This Course

- To get more than an *A*
- To learn OS and enjoy it
- To use what you have learned in *MANY* different contexts
- To be able to develop your own OS if you want to
- To start your research project in OS

The Course Web Page

NYU Classes (where we keep all resources):

- Materials
- Forums
- Grades/points

http://cs.nyu.edu/courses/summer17/CSCI-GA.2250-001/index.html

- References (mostly back to NYU Classes)
  - Lecture slides, notifications, labs

No more mailing list

- please use NYU classes forum for general questions that will benefit all
- Please use direct email for questions on your grades

TA, office hours, etc

Lecture:	Mon 6:00P - 8:20P Weaver CIWW 1302
Instructor:	 Hubertus Franke, frankeh@cs.nyu.edu
TAs/Graders:	 Salil Kapur, sk6829@nyu.edu
Office Hours: and **TA Assignment**	[0-9] Hubertus Franke: Mon 8:20 - 9:20 PM after class or if private (Room Weaver 320) [A-Z] Salil Kapur: TBD You can go to any office hour, but grading related stuff you need to talk to your assigned TA.

Do not use hf44@nyu.edu

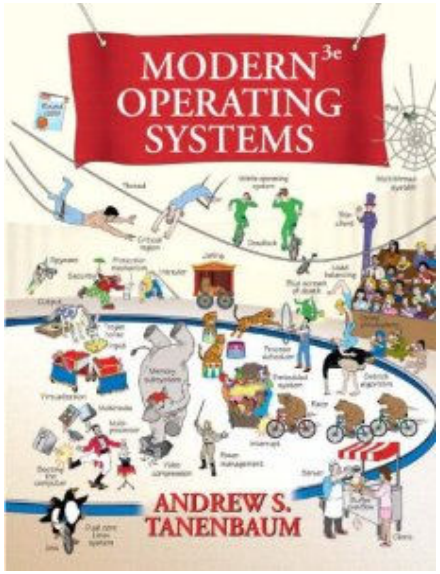
These will change, so please check

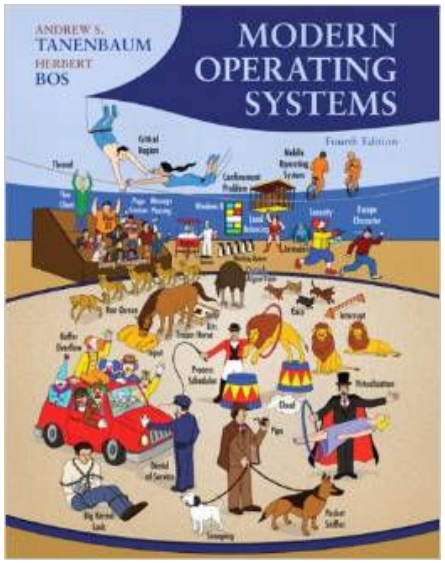
You are free to go to any office hour, but assignments will be graded by designated TA (designation will happen with the first lab assignment at which point the student population should have stabilized).
All initial disputes about points should be directed at your assigned TA first.

The Textbook

Author: Andrew Tannenbaum
Title: Modern Operating Systems 3e or 4e

Publisher: Prentice Hall
ISBN-13: 978-0-13-6006663-2 978-0133591620
ISBN-10: 0-13-600663-9 013359162X





Summer 2017 Issues

- Final is scheduled right now for 8/7/2017 (last possible)
  - Insights into your exam on 8/8/2017 as we grade through the night.
- Midterm date .. Will let you know soon (will discuss whether you prefer so skip)
- I am only in NYC on Monday evenings, so please use my office hour !!
- I am available week around on email (frankeh@cs.nyu.edu) only
  or on NYU classes
- I check the forum and frankeh@cs.nyu.edu daily.

Grading

- Labs : 55%
- Midterm : 15%
- Final : 30%

- Usually due few weeks after assignment
- Submitted as softcopy of code
- Will be graded by automated scripts
- 2 point penalty per day late (7days max) (after that talk to TA/me)

Labs are due on a Tuesday lunch. You can submit as many times a you like till that due date/time (we will not grade it nor look at it). On due date/time submissions will be graded and no further resubmission will be allowed.

If you have late submissions (we accept up to 7 days late with deductions), once a submission is entered, it will be graded and further submissions are no allowed.

Tip: if you fall behind beyond 7 days, talk to me and/or TA, but do not delay the next lab any further. You will still be able to submit without further deduction, but lets plan carefully as to not create delays and deductions with the next lab.

Labs are roughly 500-700 lines of code each (some will repeat), so don't start the night before. Expect each lab to take 20+ hours straight work minimum.

Integrity

- Academic integrity
- http://www.nyu.edu/about/policies-guidelines-compliance/policies-and-guidelines/academic-integrity-for-students-at-nyu.html
- Your labs, and exams must be your own - we have a zero tolerance policy towards cheating of any kind and any student who cheats will get a substantial deductions in the course.
- Both the cheater and the student who aided the cheater will be held responsible for the infriction.

- Examples:
  - Github: please make it private !!!
    If somebody copies your code …

Integrity

- **It is OK to discuss:**
  - "I just implemented the queue using C++ LinkedList, they have prio insert" → then go off and read about it and implement.
  - Read about general approaches on internet, e.g. how to correctly parse command line arguments

- **It's NOT OK:**
  - Look at other solutions to the given problem.
  - Search for solutions (I am keenly aware they are available on github and we have them).
  - Utilize other people solutions (we have them too).

- We use multiple code similarity checkers with several years of references and submissions primed. They are amazing at spotting (code restructuring, variable renaming, code obscuring, ..)

- I check throughout the semester even after points have been given.

- Impact:
  - 1 lab identified -> 0 points -> $\frac{1}{4}$ * 55% = 13.75 / 100 -> 1+ grade reduction
    + Department Notification -> mark on your academic record
  - 2 or more labs -> Department Notification -> **"?"** typically not pleasant
    and you are not eligible for TA jobs from that point off.

- **If in doubt:** 

you are responsible for your action