

Spring 2020 CIS 345/545
Operating System Principles

Jingyuan

j.liang18@csuohio.edu T+TH 5-7PM FH018 basement lab

Instructor: Janche Sang
Office: FH216
Email: sang@eecs.csuohio.edu
Phone: 687-4780

Office Hours: T Th 3-5PM,
(others by appointment)

Prerequisites: CIS340

Lectures: M W 4:30-5:45 PM, FH202

Drop: Friday, Jan. 24 (without W grade)

Withdrawal: Friday, Mar. 27 (with W grade)

Final Exam: Monday, May 4, 4-6PM

Midterm: March 12, 13, 14, 15, 16, 17, 18, 19, 20

Text: *Modern Operating Systems*, by Tanenbaum, 4th Ed., Prentice Hall,

Course Description: The basic concepts of computer systems, commonly found in most modern computers, are studied. In particular, the class focuses on processes (management, scheduling, synchronization), memory management, file systems and I/O management. Students are expected to work on several intensive programming projects, in addition to regular class assignments.

Expected Outcomes: At the end of this course, a student will be able:

- Have acquired good programming skills, and understand good programming practices;
- Have sound understanding of the principle of an operating system;
- Have basic concepts used in operating system, including process, synchronization, memory management, file systems, etc.;
- Be able to writing system level programs using system calls;
- Be able to solve practical problems using multi-thread programming.

teams?

Grading Policy: Projects, Homeworks, Quizzes, Class Attendance/Participation 35%
Midterm 30%
Final 35%

The course grade is based on a student's overall performance through the entire Semester.

The total points will be curved. No makeup exams will be given unless notified and agreed to in advance. No makeup quizzes.

- Curve based on total points

Other Information:

- Late projects cannot be accepted for any reason. All assignments are due at the beginning of class on the specified date.
- Students are encouraged to discuss homeworks/projects with classmates. However, each student must do his/her own work. Evidence of copying will result in a zero grade for all students involved. Also, students are responsible for protecting their own programs and homeworks. Academic misconduct and cheating will not be tolerated. Violations will be subject to disciplinary action as specified in the CSU Student Conduct Code.
- Programming assignments are to be done on one (or more) of the department Linux workstations in FH133E such as bach, chopin, degas, etc. The department server, grail, may **not** be used! Note that these Linux machines have been shut off from outside access by IS&T with the exception of grail and spirit. Therefore, you have to use a secure shell client program (e.g. putty, bitvise) to login grail or spirit and then access the other workstations. You also need to put your name and the change log in the first few lines of your program as comments.

Tentative Course Outline

Topics	Chapter
Operating Systems Concept	Tanenbaum Ch1
Processes and Threads	Tanenbaum Ch2
Processes in Linux	Tanenbaum Ch10.3
Memory Management	Tanenbaum Ch3
File Systems	Tanenbaum Ch4
Input/Output	Tanenbaum Ch5
Deadlock	Tanenbaum Ch6
Virtualization and the Cloud	Tanenbaum Ch7
Security	Tanenbaum Ch9

Option