

CS 321 - Operating Systems

Spring 2020 Syllabus

Instructor: Dr. J. Genetti
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Office / Phone: 541 Duckering / 474-5737
Office Hours: MW 11:45-1:00 or by appointment

Prerequisites: CS 301
Required Text: *Modern Operating Systems, 4th ed*, Tanenbaum & Bos
Location/Time: Duckering 252, MWF 10:30-11:30

Catalog Description: The software stack in a modern computer: thread, process, container, kernel, hypervisor and network. Enforcing access control and securing communication between these layers, and designing services to use them effectively.

Student Learning Outcomes: After taking this course, students should

1. Know the purposes and responsibilities of operating systems
2. Understand standard operating systems concepts such as interrupt, system call, process, thread, scheduling, concurrency, deadlock and virtual memory
3. Understand how major operating systems differ
4. Understand how machine security policy is enforced by the hardware
5. Be familiar with operating system implementation issues involved in process/thread management, memory management and file systems
6. Have a basic programming proficiency in the use of threads

Grading:

HW Assignments	25%
Presentation	15%
Project & Presentation	20%
Mid-term Exam (in-class, Wed March 4)	20%
Final Exam (in-class, Thu April 30, 10:15a-12:15p)	20%

HW Assignments: HW will be assigned every week or two and consist of both programming and answering questions. Homework turned in late will be penalized 10% per class meeting.

Presentation: Students will give a 15-minute in-class presentation on an aspect of operating systems shortly after the mid-term. All presentation slides will be shared with the class and their content will be tested during the final exam. Topics, time slots, and expectations will be discussed well in advance.

Project: Groups of 2-3 students will specify, design and implement a project. Topics and groups will be approved the week after spring break. Each group will have 10-15 minutes to present their results near the end of the semester.

Final grades will be assigned based on the following percentage intervals: A+ [95%,100%], A [90%,95%), A- [85%,90%), B+ [80%,85%), B [75%,80%), B- [70%,75%), C+ [65%,70%), C [60%,65%), C- [55%,60%), D+ [50%,55%), D [45%,50%), D- [40%,45%), F [0%,40%).

Policies: Students are expected to be at every class meeting, and are responsible for all class content, whether present or not. If an absence is necessary, work may be made up only if the instructor is notified as soon as possible. Absences due to scheduled events must be arranged ahead of time. Academic dishonesty will not be tolerated, and will be dealt with according to UAF procedures. CS Department policies can be found at www.cs.uaf.edu/departmental-policies/

Disabilities Services: The Office of Disability Services implements the Americans with Disabilities Act (ADA), and insures that UAF students have equal access to the campus and course materials. I will work with the Office of Disabilities (208 Whitaker Bldg, 474-5655) to provide reasonable accommodation to students with disabilities.