CS-550: Operating Systems Syllabus Spring 2020

Webpage: http://www.cs.binghamton.edu/~tbartens/CS550_Spring_2020/

Instructor: Tom Bartenstein E-Mail: mailto:tbartens@binghamton.edu
See Class web page for office hours and Teaching Assistants details.

Textbook *Modern Operating Systems*, by Andrew Tanenbaum, Prentice Hall; 4th edition.

Other Recommended Material:

- The C Programming Language, Second Edition, Brian Kernighan and Dennis Ritchie, Prentice Hall, 1988.
- Operating System Concepts; Silberschatz, Galvin, Gagne, 7th or 8th edition
- Virtual Machines: Versatile Platforms for Systems and Processes, By James E. Smith Jim, Jr. Smith, Ravi Nair.

Course Description Classical and advanced concepts in Operating Systems. Topics include: Processes, threads, and events; process synchronization; concurrency; deadlock theory; robustness; virtual memory; storage and file systems; virtualization; security; mathematical models and correctness of concurrent programs; and introduction to Linux Kernel Programming.

Prerequisites

- CS-350 Undergraduate Operating Systems
- Proficiency with C programming, including a debugger such as gdb
- Comfortable programming and working in a Linux environment

Credits /Contact Hours 3 credits, Two 90-minute lectures per week. Students are expected to do at least 9 to 9 ½ hours of course-related work or activity each week, including lectures, discussions, assigned reading, studying for tests, and preparing assignments.

Grading

Your grade will be based on**:**

Program Assignments (34 assignments, 102% each)	3640%
Written Assignment	14%
Tests (23 tests 20% for first, 30% ~~each~~ for second)	~~6~~50%

The mapping from a weighted average to a letter grade changes from semester to semester based on the difficulty of the tests, labs, and assignments as compared to previous semesters; and will not be published.

Commented [TB1]: Revised Mar. 24 202 due to COVID-19

Commented [TB2]: Reduced from 4 assignments to 3 assignments due to time constraints. Weight increased from 10% each to 12% each

Commented [TB3]: Replaces Test 2. Will be due in mid-April

Commented [TB4]: Reduced from 3 tests to 2, one has already occurred, the second will be the final exam. Since the final will cover 2/3rds of the semester, its weight has increased to 30%

Getting Help Please utilize the instructors and TA's office hours for questions and discussion of course related material. Our job is to make you successful, and office hours are a great way to get help. E-mail the instructor or TA's if you need an appointment outside of office hours, or e-mail questions or discussions to the professor directly.

Academic Honesty Expectations

Please review the academic honesty document and make sure that you understand it! The link is at: https://www.binghamton.edu/watson/about/honesty-policy.pdf. Cheating and copying will NOT be tolerated. For instance, any code turned in will be compared to other students' submissions. If there is significant similarity, all such similar code will receive a zero grade.

Collaboration Students are encouraged to help one another and to form study groups. In Computer Science, you can learn more from your peers than from your instructors and teaching assistants. Please be generous with your time and expertise. Doing so is good for you and good for others. You are free to discuss assignments *in general terms* with one another. However, please do not share your work directly to other students. Each student must complete your assignments *individually* (unless indicated otherwise by the instructor). Each student must write your own code and write all solutions individually. Students submitting solutions (including code) that are determined to be "too similar" will receive zero grades, and will be subject to Academic Honesty violations.