

CpS 360  
**Operating Systems**  
*Spring 2024*

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Instructor: Jordan Jueckstock  
Office: AL 76 (3<sup>rd</sup> floor, east hall)  
Office Hours: MWF 3pm / TTh 10am (others by appt. only)  
Email: [jjuecks@bju.edu](mailto:jjuecks@bju.edu)

**Course Information:**

**Catalog Description:** The study of operating system techniques, including interrupt systems and memory, processor, and device management. Three hours. *Prerequisite:* CpS 250. *Corequisite:* CpS 210.

**Overview:** This course is designed to provide the student with a more complete understanding of operating systems. Topics to be covered include resource management (processes, memory, disk storage, and I/O devices), inter-process communication, and process scheduling. Understanding this material will help you to be a more effective programmer, because you will gain an understanding of what is going on "under the hood" that will help you to track down (and avoid) performance problems.

Since studying the internals of modern operating systems like Windows and Linux is not practical for an undergraduate course due to their complexity and size, we will primarily study **xv6**, a pedagogical reimplementation of an early version of Unix in modern C that runs on Intel processors. There are two types of programming projects. Some projects involve writing programs that utilize the services of an operating system. Other projects will involve enhancing an OS itself.

**Course Resources:**

**Textbook:** Arpaci-Dusseau, *Operating Systems: Three Easy Pieces*. Freely available at [ostep.org](http://ostep.org).

**Canvas LMS:** Grades and any necessary announcements will be posted via the Canvas learning management system (LMS).

**Schedule:** The official schedule (including lecture topics/notes, assigned readings, and assignment due dates) will be maintained on the course website at <https://protect.bju.edu/cps/courses/cps360>.

**Assessment:**

Grading			
#	Category	Pts.	Total
6	Projects	75-125	600
3	Tests	100	300
	Participation	100	100
	<b>Total</b>		<b>1000</b>

Scale	
A	900+
B	800-899
C	700-799
D	600-699
F	0-599

**Grading:**

Grades are computed on a simple 10-point scale (see above) based on points earned out of 1000. Grades are not rounded up (or down—which probably should go without saying). Instead, all students are allotted 5 bonus “grace points” (which have the effect of rounding up, e.g., 695 to 700). The instructor reserves the right to confiscate these grace points, at his sole discretion and at any time, for repeated (or egregious) displays of disrespect to either the instructor or fellow students. (*Students who lose their grace points will be informed as soon as possible.*)

**Course Policies:**

- *Attendance:* Absence/tardiness are reported per University policy. Assessment of University vs. personal absences, and official penalties for too many personal absences, are handled by the registrar’s office.
- *Department:* Students and instructor will address each other with professional respect and courtesy, no matter how much fun we are (or are not) having. Students shall refrain from talking (or whispering, or texting, or tapping messages in Morse code, or...) during lectures, presentations, etc. unless otherwise indicated by the instructor.
- *Technology:* personal computers (which, let’s be honest here, includes phones and smart watches) will not be used in class unless called for by the instructor (e.g., during lab sessions). Phones, smart watches, and other communication doodads should be kept silent and passive except for high-priority communications previously discussed with the instructor (e.g., waiting for word about a sick family member).
- *Due dates:* See the department late policy <https://cs.bju.edu/academics/policies/late-work-policy/>. Unless otherwise specified, submissions must be received by 11:59pm on the day they are due.
- *Academic Integrity:* See the department policy: <https://cs.bju.edu/academics/policies/academic-integrity-policy/>. Note that *both* **Exercises** and **Projects** are considered “programs” (i.e., individual assignments).

**Copyright Policy:**

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