Course Goals

- To introduce students to the role of an operating system as a hardware resource manager, and where the OS fits into the software application layer
- To acquaint students with the need to perform memory management, and to explain to them the various memory management techniques and their tradeoffs
- To help students appreciate how the CPU itself is managed by the operating system
- To educate students about the computer deadlock problem, how deadlocks are not unique to the computer system, and attempted solutions to fix the deadlock problem
- To instruct students about processes, their creation, and the software race condition that can happen when multiple processes are run concurrently and perform IPC
- To ensure that students are familiar with the classic IPC problems and how to use semaphores in their software development process to avoid race conditions

Course Learning Outcomes (CLO)

Upon successful completion of this course, students will be able to:

CLO 1 Understand the role that the operating system software plays in the management of the various hardware subsystems of the computer system.

CLO 2 Understand locality of memory reference and how it is used to perform effective memory hierarchy management.

CLO 3 Understand the various mapping, replacement, and dynamic allocation algorithms for cache and virtual memory management.

CLO 4 Understand the alternative CPU scheduling schemes, their tradeoffs, and their applications to other queue processing situations.

CLO 5 Appreciate the difficult tradeoffs faced when attempting to deal with the resource deadlock problem and distinguish between the different deadlock prevention and a Tf1 0 0 1 87.024 366.91 Tm0 g0 G[( )]TJET

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Grading Information

Except the final course grade which is posted on MySJSU, all other grades (assignments, projects, quizzes, exams) are posted on Canvas.

Student Assessment

Homework Assignments and Quiz	25%
Midterm Exam	35%
Final Exam	40%

The instructor reserves the right to change the percentages.

The final grade of this class is *solely* based on *your* performance in *this* class.

Failure to obtain 50% of homework grade, or failure to take Midterm Exam or Final Exam, will result in a failing grade in this class.

Receiving total 0 point for all programming questions in the Final Exam will result in a failing grade in this class.

The exam dates are final.

Determination of Grade

Grade	Overall Score
A+	95-100
A	90-94.99
A-	85-89.99
B+	80-84.99
B	75-79.99
B-	70-74.99
C+	65-69.99
C	60-64.99
C-	55-59.99
D+	50-54.99
D	45-49.99
D-	40-44.99
F	0-39.99

Late Penalty

Based on the clock of Canvas, assignments submitted after the deadline earn no credit.

Makeup Exam

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Web-browsing in class is not allowed. Cell Phones are to be turned off during lectures and tests.
During exams if you receive a cell phone call or a message of any form, it will be assumed that you have completed your exam and no further work will be allowed.
Audio/video recording, or taking pictures are not allowed.
Student causing disruption in the class will be asked to leave the class.

Academic Integrity and Collaboration Policy

The work that you turn in must be original - Every single byte must come from you. You are not allowed to look at anyone else's solution in any form (from other students, web sites, etc.). You may discuss assignments with any one. But any such discussion is at the high level only, and you still must write your solution yourself.

You must take reasonable steps to protect your work. You must not share or publish your solutions to any one or at any web sites (github, stackoverflow, etc.), in this semester or any future semester. You are obligated to protect your files and printouts from access. Github repositories are public by defG[78.JETQq0.00000912 0 612 792 reV

The schedule is tentative and subject to change with fair notice. The final exam date is firm and cannot be changed.
obliged to consult the most updated and detailed version of the reading material and syllabus, which will be

Course Schedule

Week	Date	Topics	Textbook	HW
1	1/23	Course Logistics & Linux VM Environment		
2	1/28	Introduction	1	1/27 Prerequisite due
2	1/30	OS Structure	2	1/29 Honesty pledge due
3	2/4	OS Structure (cont'd)	2	2/4 Last day to drop classes
3	2/6	Processes	3	
4	2/11	Processes (cont'd)	3	2/11 Last day to add classes
4	2/13	Processes (cont'd)	3	

Week	Date	Topics	Textbook	HW