Course Syllabus

Course	CS/SE 4348.HON.24F
Course Title	Operating Systems Concepts
Professor	Ravi Prakash
Term	Fall 2024
Meetings	Mondays and Wednesdays, 8:30 am – 9:45 pm
Location	AD 2.216

Professor's Contact Information

Office Phone	972-883-2289
Office Location	ECSS 4.210 (office hours will be on MS Teams)
Email Address	ravip@utdallas.edu
Office Hours	Mondays and Wednesdays, 10 am – 10:50 am.
Other Information	Please feel free to join me on Teams during office hours to discuss your questions and/or concerns about the course. You don't need prior appointment to talk to me during the office hours. If my office hours do not suit you, or you wish to meet me at some other time, please email me. UTD email is the best way to contact me.

General Course Information

Pre-requisites	Computing Scholars Program and (CS 2340 or SE 2340 or equivalent) and (CS 3377 or SE 3377) and (CE 3345 or CS 3345 or SE 3345). Repeat Restriction.
Course Description	An introduction to fundamental concepts in operating systems: their design, implementation, and usage. Topics include process management, main memory management, virtual memory, I/O and device drivers, file systems, secondary storage management, and an introduction to critical sections and deadlocks.
Learning Outcomes	1. An understanding of processes 2. An understanding of threads 3. An understanding of concurrent programs 4. An understanding of simple memory management 5. An understanding of virtual memory 6. An understanding of scheduling algorithms 7. An understanding of I/O management 8. An understanding of file management 9. An understanding of OS virtualization
Required Texts & Materials	Operating Systems Concepts, Ninth Edition, by Silberschatz, Galvin and Gagne, ISBN: 978-1-118-06333-0 (Publisher: Wiley)

Suggested Texts, Readings, & Materials	Any additional reading material will be posted by the instructor on eLearning (also mentioned in the "Assignments & Academic Calendar" table).

Assignments & Academic Calendar

DATES	TOPIC/LECTURE	READING	ASSESSMENT / ACTIVITY	DUE DATE
08/19	Introduction	Chapters 1, 2	n/a	n/a
08/21- 08/26	Processes	Chapter 3		
08/28- 09/04	Threads	Chapter 4, Hill & Marty's paper on Amdahl's law in multicore era		
09/09- 09/18	Process Synchronization	Chapter 5, Lamport's bakery algorithm paper, Lynch's resource allocation paper	Quiz 1	TBD
09/23 - 09/30	CPU Scheduling	Chapter 6, Liu and Layland's scheduling paper	Quiz 2	TBD
10/02 - 10/09	Deadlocks	Chapter 7, Revisit Lynch's paper	Midterm Exam	10/14 (tentative)
10/16 - 10/23	Main Memory	Chapter 8		
10/28 - 10/30	Virtual Memory	Chapter 9 Denning: Locality Principle and Working Set papers	Quiz 3	TBD
11/04 - 11/06	Mass-Storage Structure	Chapter 10, Chen et al.: RAID paper		
11/11 - 11/18	File Systems	Chapters 11, 12		

DATES	TOPIC/LECTURE	READING	ASSESSMENT / ACTIVITY	DUE DATE
11/20 - 12/02	I/O Systems	Chapter 13	Quiz 4	TBD
12/04	Virtual Machines	Chapter 16	Final Examination	As per schedule determined by Registrar's Office

Course Policies

Class Materials	The instructor may provide class materials that will be made available to all students registered for this class as they are intended to supplement the classroom experience. These materials may be downloaded during the course, however, these materials are for registered students' use only. Classroom materials may not be reproduced or shared with those not in class or uploaded to other online environments except to implement an approved Office of Student AccessAbility accommodation. Failure to comply with these University requirements is a violation of the Student Code of Conduct.
Class Attendance	The University's attendance policy requirement is that individual faculty set their course attendance requirements. **Regular and punctual class attendance is expected**. Students who fail to attend class regularly are inviting scholastic difficulty. The Department of Computer Science has specific requirements about attendance and penalty for missing a number of consecutive classes or missing a certain number of classes in all. All departmental attendance policies will apply to this course.
Class Participation	A portion of the grade for this course is directly tied to your participation in this class. It also includes engaging in group or other activities during class that solicit your feedback on homework assignments, readings, or materials covered in the lectures (and/or labs). Class participation is documented by faculty. Successful participation is defined as consistently adhering to university requirements, as presented in this syllabus. Failure to comply with these University requirements is a violation of the Student Code of Conduct.
Class Recordings	Students are expected to follow appropriate University policies and maintain the security of passwords used to access recorded lectures. Unless the Office of Student AccessAbility has approved the student to record the instruction, students are expressly prohibited from recording any part of this course. Recordings may not be published, reproduced, or shared with those not in the class, or uploaded to other online environments except to implement an approved Office of Student AccessAbility accommodation. Failure to comply with these University requirements is a violation of the Student Code of Conduct.

	The instructor may record meetings of this course. These recordings will be made available to all students registered for this class if the intent is to supplement the classroom experience. If the instructor or a UTD school/department/office plans any other uses for the recordings, consent of the students identifiable in the recordings is required prior to such use unless an exception is allowed by law.
Grading (credit) Criteria	Midterm exam: 25%, Final exam: 25%, programming projects: 25%, quizzes: 15%, class participation tests/survey paper: 10%. All programming projects must be demonstrated to the instructor or the TA for the student to receive a grade for them. Lowest quiz grade will be dropped for each student.
Make-up Exams	Make-up examinations will be offered only if the student has a valid medical reason and produces a doctor's letter.
Extra Credit	No extra-credit work will be assigned.
Late Work	Programming projects, survey papers and other assignments with deadlines submitted after the due date will be penalized at the rate of 10% of the total credit for that project for every day (not including weekends and holidays) by which they are late. Late submissions will not be accepted once the solution has been discussed in class and the graded submissions have been returned. Make-up quizzes will not be offered once quiz grades and feedback have been made available to the class, unless the student has extenuating medical conditions.
Special Assignments	None
Classroom Citizenship	The instructor encourages students to take active part in class discussions. No question is too simple/stupid to be asked. So, do not hesitate.
Comet Creed	*This creed was voted on by the UT Dallas student body in 2014. It is a standard that Comets choose to live by and encourage others to do the same:* *"As a Comet, I pledge honesty, integrity, and service in all that I do."*
Academic Support Resources	*The information contained in the following link lists the University's academic support resources for all students.* *Please go to http://go.utdallas.edu/academic-support-resources.*
UT Dallas Syllabus Policies and Procedures	*The information contained in the following link constitutes the University's policies and procedures segment of the course syllabus. Please review the sections regarding the credit/no credit grading option and withdrawal from class.* *Please go to http://go.utdallas.edu/syllabus-policies for these policies.*

The descriptions and timelines contained in this syllabus are subject to change at the discretion of the Professor.