

CS167: Operating Systems

Course Information and Syllabus Semester I, 2009–2010

Lectures	G hour: 2:00–2:50 on Mondays, Wednesdays, and Fridays
Room	CIT 368
Help Sessions	Occasional Tuesday and Thursday evenings, 7–9pm, TBA
Lecture Notes	http://www.cs.brown.edu/courses/cs167/lectures.html
Text	A draft of the course textbook is available at Metcalf Copy Center.
Prerequisite	CS 32 (You need to know how to program in C. For those who don't, a minicourse on C will be given in the evenings during the first week of the semester.)
Instructor	Tom Doepfner (twd@cs.brown.edu)
Office	CIT 405, x3-7633
Office Hours	MWF 3 to 4, by appointment, or just stop by. Also most Tuesdays from 4:30 to 6 in "Advising Central" (second floor of J. Walter Wilson). See http://brown.edu/college/advising_central .
Head TAs	Spencer Brody (stbrody@cs.brown.edu) Robert Mustacchi (rm@cs.brown.edu)
UTAs	Chris Siden (csiden@cs.brown.edu) Travis Webb (jtwebb@cs.brown.edu) (169 only)
Requirements	5 Programs (40%) (those taking CS169 need complete only the first two CS167 programs) 4 Homeworks (20%) Midterm Exam (10%) Final Exam (30%)
Incomplete Policy	Incompletes are granted only under exceptional circumstances (e.g. severe illness, death in the family, kidnapping, etc.; too heavy of a course load is not sufficient reason for an incomplete). Getting a dean to certify your reason for requesting an incomplete helps, but is not sufficient.
Due Dates	Assignments due on Fridays must be handed in by 10pm. Assignments due on other days must be handed in by 11:59pm.
Late Policy	Everyone is allowed a total of 3 late days on assignments free of

	charge. Beyond that, you are penalized 25% of the assignment's value for each day it is late (but you will not be penalized for more than the assignment's value). We will apply late days to assignments in an optimal fashion (with respect to your grade).
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Lectures and Due Dates

Date	Topic	Readings	Out	Due
Sept 9	Intro. to CS167 and OS	Sections 1.1 and 1.2	Program 1: Shell	
Sept 11	Introduction to Unix™ and OS Structure	Sections 1.3 and 1.4		
Sept 14	Introduction to Unix™ and OS Structure			
Sept 15 (7pm)	<i>Help Session: Program 1</i>			
Sept 16	Programming with Threads	Chapter 2		
Sept 18	Programming with Threads		Program 2: DB	Program 1
Sept 21	Basic Concepts	Sections 3.1 to 3.3		
Sept 22 (7pm)	<i>Help Session: Program 2</i>			
Sept 23	Linkers and Loaders	Section 3.4		
Sept 25	Booting	Section 3.5		
Sept 28	OS Design	Section 4.1		
Sept 30	OS Design: Virtual Machines	Section 4.2.1	Homework 1	
Oct 2	OS Design: Microkernels	Section 4.2.2		Program 2
Oct 5	Threads Implementations	Section 5.1		
Oct 7	Threads, Concurrency, Interrupts	Section 5.2	Program 3: Threads Impl.	Homework 1
Oct 8 (7pm)	<i>Help Session: Program 3</i>			
Oct 9	Scheduling	Section 5.3		

Oct 14	Scheduling			
Oct 16	Scheduling		Homework 2	
Oct 19	File Systems	Section 7.1		Program 3
Oct 21	File Systems	Section 7.2	Program 4: VFS	
Oct 22 (7pm)	<i>Help Session: Program 4</i>			
Oct 23	File Systems	Section 7.3		Homework 2
Oct 26	File Systems	Section 7.4		
Oct 27 (7pm)	<i>Help Session: Midterm</i>			
Oct 28	No Class			
Oct 28 (7-9pm)	Midterm exam			
Oct 30	File Systems	Sections 7.5 and 7.6		
Nov 2	Virtual Memory: Architecture	Sections 6.1, 6.2		
Nov 4	Virtual Memory: OS	Section 6.3		
Nov 6	Virtual Memory: OS		Homework 3	
Nov 9	Virtual Memory: OS			Program 4
Nov 11	Security	Section 10.1	Program 5: File System	
Nov 12 (7pm)	<i>Help Session: Program 5</i>			
Nov 13	Security	Section 10.2		Homework 3
Nov 16	Security			
Nov 18	Security			
Nov 20	Communication Protocols	Section 8.1		
Nov 23	Remote Procedure Call Protocols	Section 8.2		
Nov 30	Distributed File Systems	Chapter 9	Homework 4	
Dec 2	Distributed File Systems			
Dec 4	Distributed File Systems			

Dec 7				Homework 4
Dec 8	—			
Dec 10	—			Program 5
Dec 13 (5pm)	<i>Help Session: Final Exam</i>			
Dec 14	Final Exam: 9am – noon			