CS 460: Operating Systems

Course Syllabus
Spring 2018

Introduction

This course provides a hands-on introduction to operating systems. Topics covered include processes and threads, CPU scheduling, memory management, I/O systems, distributed file systems, multiprocessor operating systems. Prerequisite: CS 300 with a grade of "C" or better. 4 hours.

ACM Knowledge Topics

Knowledge Topics	Student Learning Outcomes
OS/Overview of Operating Systems	Explain the objectives and functions of modern operating systems.
OS/Operating Systems Principles	Contrast kernel and user mode in an operating system.
OS/Concurrency	Explain the different states that a task may pass through and the data structures needed to support the management of many tasks.
OS/Scheduling and Dispatch	Describe the difference between processes and threads.
Major Student Learning Outcomes	
Apply knowledge through the design and implementation of a large scale computer application.	Apply strategies for abstract problem solving

Grade Scale	A 90 - 100	A- 90-92
B+ 88-90	B 82-88	B- 80-82
C+78-80	C 72-78	C- 70-72
D+ 68-70	D 60-68	
	F 0-60	

Course Assessment

Midterm 1	15%
Midterm 2	15%
Final Exam	15%
Homework/Quizzes/Labs	15%
Programming Projects	40%

Academic Dishonesty

The cheating policy is defined in Pacific Stuff & the Pacific Catalog as well as the Academic Policy that each of you signed upon entering Pacific University. Be sure you read or reread this policy carefully. All code written for our course is to be an original design and an original implementation. The Web, textbooks, and any other references are simply references for you. Copying source code from any source is prohibited.

Further, **source code is not to exchange hands in any form or by any medium** (this includes posting your code on public forums such as GitHub or GitLab) except when sending your solutions to the instructor. It is OK to share high level ideas during the design phase, share information dealing with OS issues, debugger issues, in general, development issues that do not involve code writing.

Specific solutions to homework problems should not be discussed with any other students. The solutions should be an individual effort unless otherwise specified on the assignment. As with coding, high level concepts can be discussed. However, **do not discuss specific homework problems or solutions**.

If you have any question as to whether or not what you are about to do constitutes cheating, ask the instructor.

Version Control

When you use version control, your master repository must not be publicly available. You are welcome to host an SVN or Git repository on your personal account on Zeus or to use a private repository on GitLab or GitHub. If you use a private repository on GitLab or GitHub, you must allow only yourself and the instructor (chaddcw) access to your repository.

Course Policies

- **Assignments** are to be submitted, electronically and as a hard copy, by 11:59pm on the day in which they are due (**unless otherwise specified**). Late assignments will not be accepted. Start your assignments early.
- **Grade Complaints:** If you have a complaint regarding a grade on an assignment, exam, or homework, write a one paragraph description of why you feel the grade is incorrect and deliver it to the instructor. The paragraph must be delivered to the instructor within one calendar week of when the graded material is returned to the student.
- **Quizzes**: A number of unannounced, open-notes quizzes will be given during the semester.
- No early or late exams/finals will be given.
- No incompletes will be given.
- Neither computer failure, software failure, nor lack of computer access are accepted as excuses for late programs; therefore, start work on the programs as soon as they are assigned, don't put them off until the last minute. Further, corruption of programs due to bad disk media is also not accepted as an excuse for late programs; therefore, always keep a current backup of all

programs on a separate disk. You must use revision control for this course; I recommend Subversion.

- **Participation:** The instructor reserves the right to raise or lower a student's grade based on class participation and attendance. Students who have shown up for office hours with good questions will be looked upon favorably.
- I do not want to hear any electronic devices go off during lecture; therefore, make sure you silence these devices before lecture starts.
- **Class starts promptly at 1 pm.** Your attendance is expected at each class meeting. It is in your own best interest to attend class, as your grade will almost certainly suffer indirectly if you choose not to attend. In addition, I reserve the right to consider attendance in instances of borderline grade assignments. Of course, excused absences (sickness, family emergencies, varsity athletic participation) will not be held against you. Scheduled absences should be communicated to me well in advance. If you must miss a class, be sure to check with me or another student to get what you missed. Exams will be given in class on the day scheduled and may not be made up. The material in the course is, by necessity, cumulative. Be warned that if you fall behind, you will not be able to catch up easily.

Resources

Operating System Concepts (8th Edition), Silberschatz, et al **Errata!**

Virtual Box: http://www.virtualbox.org/

Linux Programming Guides

Instructor Details		**Course Basics**	
Professor	Chadd Williams	**Course Title**	CS460 Operating Systems
Email	chadd@pacificu.edu	**Meeting Times**	TTh 1-2:35pm
Office	Strain 202	**Location**	Scott 204
Phone	(503) 352-3041	**Textbook**	Operating System Concepts (8th Edition), Silberschatz, et al Silberschatz, Galvin, Gagne **ISBN** 978-0-470-12872-5
Office Hours	WF 10-1130am TTh 3-4pm and by appointment	**Website**	http://zeus.cs.pacificu.edu/chadd/cs460s18
		Official Clock	http://time.gov/timezone.cgi?Pacific/d/-8/java
		Final Exam	Saturday, May 12, 3pm

Planned Exam Dates

Midterm Mar 08

Midterm Apr 19

Final May 12 (Saturday, 3pm)

University Required content

- ***Learning Support Services for Students with Disabilities***

  If you have documented challenges that will impede your learning in any way, please contact our LSS office in Clark Hall (ext.2717; lss@pacificu.edu). LSS staff will meet with students, review the documentation of their disabilities, and discuss the services that Pacific offers and any appropriate ADA accommodations for specific courses.

- ***Tutoring and Learning Center (TLC)***

  The TLC is located in Scott Hall, 1st-floor. The center focuses on delivering one-on-one and group tutoring services for foreign languages, math and science courses and writing skills in all subjects. Students should consult with the center's director for information on tutoring available for other subjects. Day and evening hours; walk-ins welcome!

- ***Unauthorized Recordings***

  Students are prohibited from making audio and/or visual recordings of lectures or presentations without prior consent of the instructor or presenter.