COSC 3360 JOINT COURSE SYLLABUS

Semester and Year Course Offered	***Spring* 2020**
Department	***Computer Science***
Course Number and Name	**3360—*Principles of Operating Systems***
Instructor:	***Jehan-François Pâris***
E-mail Address:	jfparis AT uh DOT edu
Office:	569 PGH
Telephone:	713-743-3341 during office hours (no voice mail)
Class Schedule	• MW 4:00 to 5:30pm in **MH 170** • TTh 4:00 to 5:30pm in **MH 170**
Office Hours:	MTWTh 5:45 to 7:00 pm in **PGH 569** *starting January* 13
Web Pages:	www.cs.uh.edu/~paris/3360/resources.htm
Joint Piazza page	piazza.com/uh/spring2020/cosc33606310/home
Teaching Assistants:	***TBA***

The information contained in this class syllabus is subject to change without notice. Students are expected to be aware of any additional course policies presented by the instructor during the course.

LEARNING OBJECTIVES

Understanding the fundamental aspects of operating system operation; learning how to create and control processes in a UNIX environment; learning how to establish communication channels between processes and how to synchronize processes and threads.

MAJOR ASSIGNMENTS/EXAMINATIONS

Your grades will be based on three quizzes (60 percent of your grade) and three programming assignments (40 percent). ***People failing the assignments or the examinations will fail the course.*** The three main quizzes will be ***closed book***. They will be ***on Blackboar***d, which means you will need to ***bring a Mac or Windows laptop to school on quiz days.*** They will cover all the materials discussed in class, but not any readings. You will be allowed ***a single 8.5"×11" page*** of notes for each quiz.

All programming assignments will be in C or C++ under Linux and submitted through your Blackboard account. They will be graded for ***correctness*** and respect of ***good programming practices*** such as ***modularity*** and ***documentation***. Be sure to dedicate enough time to them. Late assignments will be assessed a penalty of ***5 points per day*** unless announced otherwise. You will be given a total of ***three*** grace days to be used at your discretion. You do not need anyone's permission to use them.

No cheating will be tolerated on any graded assignment: ***what you turn in must be your own work. The minimum penalty for any transgression will be an F grade for the course. You have been warned.***

REQUIRED READINGS

J.-F. Pâris, *Fundamentals of Operating Systems,* http://www2.cs.uh.edu/~paris/3360/PowerPoint/ (***also on Piazza***).

RECOMMENDED READINGS

Remzi H. Arpaci-Dusseau and Andrea C. Arpaci-Dusseau, *Operating Systems: Three Easy Pieces,* http://pages.cs.wisc.edu/~remzi/OSTEP/. (***Free online***)

TENTATIVE LIST OF DISCUSSION/LECTURE TOPICS

Week	*Topic*
1-2	*Introduction, interrupts, O. S. organization.*
3-4	*Processes, process creation and deletion, client/server model, server organization, lightweight processes and threads.*
5-6	*Scheduling. Inter-process communication.* ***Review Session.*** ***First Quiz on either Monday, February 17 or Tuesday, February* 18.**
7-8	*Inter-process synchronization, semaphores, monitors, condition variables.*
9-10	*Deadlocks.* ***Review Session.***
11-12	***Second Quiz on either Monday, March 30 or Tuesday, March* 31**. *Memory management. Virtual memory management.*
13-15	*File systems*
Finals' week	***Third Quiz on Monday, May 4 at 5:00 pm for the MW students and Tuesday, May* 5 *at* 5:00 *pm for the TuTh students.***

HANDS-ON LINUX EXPERIENCE

The best way to learn a computing environment is to use it to solve real problems. For this reason, you will all have to install some version of UNIX on your personal computer. In order of increasing sophistication, your options are:

1. Installing the Windows Subsystem for Linux (WSL) on your PC or learning to use your Mac shell. The best tutorial for installing WSL is: https://docs.microsoft.com/en-us/windows/wsl/install-win10
2. Finding a way to boot Linux/FreeBSD from your hard drive or from a flash drive.
3. Installing a Linux/FreeBSD virtual machine on your PC or your Mac.

I do not recommend installing Cygwin on your PC because it does not seem to handle all Pthread synchronization primitives in a correct fashion. This might be your sole option if you have a PC that does not run the 64-bit version of Windows 10. If this is the case, you should use one of our servers.

IMPORTANT

1. Given the way Blackboard quizzes are set up, you will have to take each quiz along with the students of your section.
2. Skipping assignments is the ***safest way*** to a failing grade.
3. Please contact me if you have ***any special need***. We will work together around them.
4. Please verify that the university has your ***correct email address****:* I will use it whenever I have to get in touch with you for things like missing assignments and so on.
5. Please refer to the ***Piazza course page*** for course notes, quiz solutions, review session questions and answers, and other announcements.
6. Attendance is ***expected*** from all.
7. ***Please leave your laptop, tablet or smartphone in your bag*** unless you use it ***exclusively for note taking***. (https://www.insidehighered.com/news/2016/05/13/allowing-devices-classroom-hurts-academic-performance-study-finds)

Counseling and Psychological Services (CAPS) can help students who are having difficulties managing stress, adjusting to college, or feeling sad and hopeless. You can reach CAPS (www.uh.edu/caps) by calling 713-743-5454 during and after business hours for routine appointments or if you or someone you know is in crisis. No appointment is necessary for the "Let's Talk" program, a drop-in consultation service at convenient locations and hours around campus: http://www.uh.edu/caps/outreach/lets_talk.html