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:  PGH 569
Telephone:  By email appointment only
Class Schedule

- Second quiz on Blackboard
  - Monday, March 30 from 4 to 5pm for the MW section
  - Tuesday, March 31 from 4 to 5pm for the TuTh section
- Third quiz on Blackboard
  - Monday, May 4 from 5 to 6pm for the MW section
  - Tuesday, May 5 from 5 to 6pm for the TuTh section

Office Hours:  Piazza and/or email
Web Pages:  www.cs.uh.edu/~paris/3360/resources.htm
Joint Piazza page  piazza.com/uh/spring2020/cosc33606310/home
Teaching Assistants:  Christos Smailis (esmailis AT uh DOT edu)
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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 Blackboard, 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 or exam: 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
RECOMMENDED READINGS

TENTATIVE LIST OF DISCUSSION/LECTURE TOPICS

<table>
<thead>
<tr>
<th>Week</th>
<th>Topic</th>
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<tbody>
<tr>
<td>1-2</td>
<td>Introduction, interrupts, O. S. organization.</td>
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<tr>
<td>3-4</td>
<td>Processes, process creation and deletion, client/server model, server organization, lightweight processes and threads.</td>
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<tr>
<td>5-6</td>
<td>Scheduling. Inter-process communication. Review Session. First Quiz on either Monday, February 17 or Tuesday, February 18.</td>
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<tr>
<td>7-8</td>
<td>Inter-process synchronization, semaphores, monitors, condition variables.</td>
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<td>9-10</td>
<td>Deadlocks. Online mock quiz.</td>
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<tr>
<td>11-12</td>
<td>Second Quiz on either Monday, March 30 or Tuesday, March 31. Memory management. Virtual memory management.</td>
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<tr>
<td>13-15</td>
<td>File systems. Online mock quiz.</td>
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<tr>
<td>Finals’ week</td>
<td>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.</td>
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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. Your simplest options are either learning to use your Mac shell or installing the Windows Subsystem for Linux (WSL) on your PC. The best tutorial for the latter option is: https://docs.microsoft.com/en-us/windows/wsl/install-win10

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 your class account.

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. Please contact me if you have any special need or are experiencing any hardship conditions. We will work together around them.
3. 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.
4. Please refer to the Piazza course page for course notes, quiz solutions, review session questions and answers, and other announcements.

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