

COSC 3360 / 6310 COURSE SYLLABUS

Semester and Year the Course is Offered:	Spring 2019
Department:	Computer Science
Course Number and Name:	3360 / 6310 - Fundamentals of Operating Systems
Instructor:	Carlos Alberto Rincon Castro
Email Address:	carincon AT uh DOT edu
Class Schedule:	Tu and Th 2:30 pm. to 4:00 pm. in SEC 103
Office Hours:	Tu and Th from 4:30 pm. to 5:30 pm. in PGH 577
Course Web Page:	UH Blackboard Official Website
Teaching Assistant:	TBA

NOTE: The information contained in this class syllabus is subject to change. Students are expected to be aware of any additional course policies presented by the instructor during the course.

LEARNING OBJECTIVES

At the end of this course, the student should be able to:

- Describe the key functions of an operating system and its relationship with the components of a computer system.
- Understand the process management aspects of the operating system: control and description of processes, threads, interprocess communication, and concurrency mechanisms.
- Explain how operating systems schedule processes and threads.
- Understand the different memory management solutions provided by the operating system.
- Understand the I/O management tools and file system design aspects and implementation.

TENTATIVE LIST OF DISCUSSION/LECTURE TOPICS

WEEKS	TOPIC
1 – 4	UNIT 1: Computer Systems Overview Operating Systems Overview Processes: Description and Control, Threads, Interprocess communication.
2/14	Quiz Unit 1
6 – 9	UNIT 2: Processes concurrency: Mutual exclusion and synchronization, Deadlock and starvation
3/21	Quiz Unit 2
11 – 15	UNIT 3: Uniprocessor Scheduling and Multiprocessor Scheduling Memory management and Virtual Memory I/O and File Systems
5/7	Quiz Unit 3 (Finals' week, 2 pm- 5 pm)

TENTATIVE PROGRAMMING ASSIGNMENTS SCHEDULE

DATES	TOPIC
2/18	ASSIGNMENT 1: Processes and Threads
3/25	ASSIGNMENT 2: Interprocess Communication
4/29	ASSIGNMENT 3: Interprocess Synchronization

GRADING

Evaluation	%
Quiz Unit 1	20
Quiz Unit 2	20
Quiz Unit 3	20
Programming Assignment 1	10
Programming Assignment 2	15
Programming Assignment 3	15

GRADING SCALE

A \geq 92.5 Excellent	A- \geq 89.5 and $<$ 92.5 Outstanding	B+ \geq 86.5 and $<$ 89.5 Very Good
B \geq 83.5 and $<$ 86.5 Good	B- \geq 79.5 and $<$ 83.5 Above Average	C+ \geq 76.5 and $<$ 79.5 Very Good
C \geq 72.5 and $<$ 76.5 Average	C- \geq 69.5 and $<$ 72.5 Low Average	D+ \geq 65.5 and $<$ 69.5 Below Average
D \geq 62.5 and $<$ 65.5 Poor	F $<$ 62.5 Failing	

TEXTBOOK

William Stalling. *Operating Systems: Internals and Design Principles*. Seventh Edition. Prentice Hall. 2011.

Other Useful Books:

- Tanenbaum, *Operating Systems: Design and Implementation*
- Silberschatz, Galvin. *Operating System Concepts*.
- Remzi H. Arpaci-Dusseau and Andrea C. Arpaci-Dusseau, *Operating Systems: Three Easy Pieces*, <http://pages.cs.wisc.edu/~remzi/OSTEP/>. (Free online)

IMPORTANT NOTES

- People failing the programming assignments **or** the examinations will fail the course.
- The three main quizzes will be closed book.
- 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.
- Assignments must be submitted on the due date. No late or email submissions will be accepted.
- Academic Honor Code: **Cheating** and/or **plagiarism will not be tolerated**. It is each student's responsibility to read and understand UH Academic Honesty Policy (<https://www.uh.edu/provost/policies/honesty/documents-honesty/academic-honesty-policy.pdf>).

COUNSELING AND PSYCHOLOGICAL SERVICES (CAPS) STATEMENT

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