

COP 4600: Operating Systems

3 Credits
Summer 2016

- *Administrative Information*

1. *Instructor:* Hady Ahmady Phoulady
2. *Department:* Computer Science and Engineering
3. *E-Mail:* hady@mail.usf.edu
4. *Office Hours and Location:* Monday/Wednesday/Friday 10:00am – 10:45am, ENB 348
5. *Meeting Time and Location:* Monday/Wednesday/Friday 11:00am – 12:15pm, ENG 4
6. *TA:* John Rippetoe
 - *E-Mail:* rippetoej@mail.usf.edu
 - *Office Hours and Location:* Tuesday/Thursday 10:00am - 11:30am, ENB 325

- *Course Objectives*

1. Develop an understanding of the principles of operating systems.
2. Develop insight into process management and scheduling issues.
3. Understand memory management operation.
4. Develop an understanding of file system implementation and of multiple levels of hardware support and management.
5. Understand the concepts of cooperating processes, including communication, synchronization, and deadlock (detection and avoidance).
6. Be able to evaluate operating system features.
7. Further develop an understanding of design tradeoffs during the project phase of the course.

- *Required Textbook*

1. Main book: Operating System Concepts, 9E, Silberschatz, Galvin & Gagne, 2012.
2. For projects: Introduction to Operating System Design and Implementation: The OSP 2 Approach, Kifer & Smolka, 2007.

- *Grading*

- *Grading Rubric*

1. Ten Online Quizzes (individual): 10%
2. Two Projects (individual): 20%
3. Exam 1: 20%
Tentatively scheduled on June 12, 2016, in-class
4. Exam 2: 20%
Tentatively scheduled on July 6, 2016, in-class
5. Final Exam: 30%
Scheduled on July 22, 2016, in-class

– *Grading Scale*

Your weighted average for the course, using the above rubric, must be greater than or equal to `<avg>` in order to receive a grade of `<grade>` (see table below for `<avg>` and `<grade>` corresponding values).

<code><avg></code>	<code><grade></code>
90.0%	A
80.0%	B
70.0%	C
60.0%	D
0%	F

- The instructor reserves the right to make minor adjustments to the above grading scale based on class averages.
- The instructor reserves the right to make minor adjustments to students' grades based on their attendance or progress.
- The instructor reserves the right to use the +/- grading system.
- Incomplete grades will not be given.

• *Topics*

- Chapter 1: Introduction
- Chapter 2: System Structures
- Chapter 3: Processes – concepts, scheduling, interprocess communication, ...
- Chapter 4: Threads – Multicore programming, multithreading models, ...
- Chapter 5: Process Synchronization – Critical-section problem, Peterson's solution, mutex locks, semaphores, ...
- Chapter 6: CPU Scheduling – Concepts, scheduling algorithms, ...
- Chapter 7: Deadlocks – Handling, prevention, avoidance, ...
- Chapter 8: Main Memory – Memory management basics, segmentation, paging, ...
- Chapter 9: Virtual Memory – Page replacement, thrashing, ...
- Chapter 10: Mass-Storage Structure – Overview, disk scheduling, ...
- Chapter 11: File-System Interface
- Chapter 12: File-System Implementation
- Chapter 13: I/O Systems

• *Course Policies & Procedures*

– *Exam Policies*

- * Requests for make-up examinations will not be entertained. I will only make exceptions to this policy in case of excused absences. You must provide sufficient documentation to prove that your absence is excused.
- * You must bring your University of South Florida identification card to each exam. The identification card will be verified during each exam.
- * The dates provided for the exams are tentative. Changes to an exam date will be announced in-class.

– *Regrade Policies*

- * Regrade requests must be submitted, in writing, to the instructor within seven calendar days of either: (1) the date the graded material is returned in class or (2) the date the grades are posted on Canvas, whichever occurs first.
- * Regrade requests must be written on a separate sheet of paper and must be attached to your original submission.
- * Regrade requests must specify the question(s) to be regraded. Regrade requests must include a brief description of why the question(s) should be regraded.
- * The instructor reserves the right to regrade the entire submission.
- * Graded material which has been modified in any way since it was returned to the student will not be regraded.

– *Attendance Policies*

- * Students are expected to attend all classes.
 - * You are responsible for all material presented during each lecture. Material presented during the lecture may not be in the textbook.
 - * Students who anticipate the necessity of being absent from class due to the observation of a major religious observance must provide notice of the date(s) to the instructor, in writing, by the second class meeting.
- Hand-written work must be legible. If your work is illegible it will not be graded (i.e., you will earn a grade of 0)
- Students in need of academic accommodations for a disability may consult with the office of Students with Disabilities Services (SDS) to arrange appropriate accommodations. Students are required to give reasonable notice prior to requesting an accommodation.
- * If you require extra time on exams due to your disability, you are required to make arrangements to take your exams with the SDS office. You will not receive extra time if you choose to take your exams with the course instructor.
- You may tape my lectures and take notes for personal use, but you may not redistribute the tapes/notes or make monetary profit from the tapes/notes.

● *Academic Integrity/Academic Dishonesty*

I expect students to be honest and not cheat on their homework/projects/exams. Each student should work independently on all homework, examinations, and individual projects. Students should only work with their assigned group members on group projects. In light of this, I expect you to read the University's policies on student conduct, academic dishonesty, etc. Please see the University's Undergraduate Catalog regarding these policies at <http://www.ugs.usf.edu/catalogs/1213/pdf/AcademicIntegrityOfStudents.pdf>. I also expect you to read and understand the ACM definition of plagiarism (http://www.acm.org/publications/policies/plagiarism_policy). Students caught cheating in any form will receive an FF grade.

The University of South Florida has an account with an automated plagiarism detection service which allows instructors to submit student assignments to be checked for plagiarism. I reserve the right to submit assignments to this detection system. Assignments are compared automatically with a huge database of journal articles, web articles, and previously submitted projects and papers. The instructor receives a report showing exactly how a student's paper or code was plagiarized.