CSCI 3753: Operating Systems
Spring 2016

Instructor:	William M Mortl, MS	
Office:	ECCS 1b05 (Systems Lab)	
Email:	william.mortl@colorado.edu	
Office Hours:	T 10am-11am ECCS 102	
	Th 2:30-3:30pm ECCR 1b09	
Teaching Assistants:	Brennan McConnell (brennan.mcconnell@colorado.edu),	
	Zhiyuan Liu (zhiyuan.liu@colorado.edu)	
Class Time:	T, Th 11am-12:15pm	
Location:	ECCR 265	
Recitation Sections:	F - 9am	KOBL 235
	F - 10am	KOBL 235
	F - 11am	KOBL 235
	F - 12pm	KOBL 255
	F - 1pm	KOBL 102

Description:

This course introduces students to important Operating Systems concepts. The course will cover key aspects of how an operating systems functions on a modern computer. The following major topics will be covered:

- Basic Operating System Structure
- Processes and Threads
- Virtual Memory
- File Systems
- Security
- Networking and Distributed (File) Systems
- Virtual Machines
- Windows and Linux System Architecture (Mac OSX time-permitting)
- Operating Systems Network Programming APIs

In addition, the class will gain familiarity with important software tools such as debuggers, compilers, editors, kernel modules, and virtual machines. This course will make extensive use of Linux, and programming assignments MUST be completed in C / C++ unless otherwise specified. You will need the Computer Science VM for this course:

https://foundation.cs.colorado.edu/vm/

Prerequisites: CSCI 2400, knowledge of C

Textbook:

Operating System Concepts, 9th Edition, Abraham Silberschatz, Peter Galvin, Greg Gagne (electronic or hardcover)

Moodle & Class Participation:

Please enroll yourself ASAP in the Moodle course web page. Nearly all your class interactions will be available through Moodle. The enrollment key is: **ThompsonRitchie**

Students who participate in discussions on the discussion forum in Moodle and/or participate in class may be treated preferentially when grades are assigned.

Course Grade Breakdown:

25% Midterm
25% Final (non-cumulative)
10% Weekly Reading Quizzes
40% Programming Assignments

You MUST AVERAGE 70% on the Midterm and Final in order to pass this course!

If your test average is less than 70% then you will be given an automatic F in this course.

The instructor reserves the right to curve any aspect of the course individually, as well as the overall course. Additionally, the instructor reserves the right to award extra-credit for given assignments as well as assign optional extra-credit assignments.

Late Policy:

Excluding documented approved university absences (http://www.colorado.edu/policies), a one-week only extension is available for all programming assignments. Making use of the extension incurs a 20% deduction (your max. grade becomes 80%). No extensions will be given on reading quizzes. After the one week extension, if you do not submit your work, you will be awarded a 0 on the assignment.

Reading Assignments / Quizzes:

You will be given a reading assignment every Tuesday. You are expected to complete this reading in time to take an online reading quiz on Moodle. The reading quiz will appear in Moodle on Friday, and you will have to the start of class on Tuesday to complete it. You will ONLY GET 1 ATTEMPT at the reading quiz.

Programming Assignments (Neatness, Collaboration, and Breakdown):

You are expected to complete your programming assignments in a timely manner. As in the "real world", code cleanliness matters. On each assignment 10% of your grade is to be awarded based upon code cleanliness. This means you should do your best to have sensible function and variable names, function headers of some sort describing the purpose of the function. Additionally, you should COMMENT YOUR CODE so that instructors can follow its execution easily. If you're asking yourself what is "clean", put yourself in a grader's shoes and think what would make it easier for them to understand and read your code.

You are expected to do your own work, and COMPLETELY UNDERSTAND YOUR CODE AND HOW IT WORKS. As for collaboration, talking to your classmates (either in person, or on Moodle) about debugging code, how pointers work, C programming, and general concepts is encouraged! However, you should not sit down, and pair-program the assignment. I have implemented countermeasures to this that are not easily circumventable by renaming functions and variables.

I understand you will utilize online resources to complete the assignment, and I expect that you will cite ANY AND ALL online resources you use (URLs are fine) in a comment at the top of your code. Plagiarism will not be tolerated.

Make sure to sign up for interview grading slots, and attend the time you sign up for. You will be awarded a ZERO for the interview grading portion of the assignment if you do not sign up or do not attend your time slot.

Homework breakdown:

Cleanliness – 10%
Code functionality – 50%
Interview grading – 40%

Recitations:

Recitations are an important part of this course. Not only do they provide 1-on-1 time with a TA where you can ask questions, but it will also be used to present material, and well as hints and tricks regarding the programming assignments. Attendance will not be taken in recitation or in lecture, however, any material presented therein is fair game for the exams.

Hints and Advice:

Ask questions and attend all recitations and lectures!

DO NOT EMAIL YOUR INSTRUCTORS YOUR CODE asking “why doesn’t this work?” Also, do not go to office hours an expect to pair-program with your instructors. Asking specific questions about C, or one or two lines of code is completely acceptable and encouraged!

Use PRIVATE Github repositories for your assignments (if you want to use Github).

Get started early, and be proactive if you do not understand something. Your instructors can do a lot more for you if you ask questions before deadlines.

Use the Moodle discussion forum for asking for help. Helping others is encouraged, and we will be watching. If you help others significantly, and are on the border between two grades, participation and helping others will be taken into account when awarding grades.