CS 5500 Advanced Operating Systems
Course Syllabus
Fall 2017

ROOM: MIC D251   TIME: T 12:10 pm – 2:50 pm (CRN: 11672)
                              MIC D251   W 8:30 am – 11.10 am (CRN: 14645)
                              MIC D252   S 8:00 am – 10:40 am (CRN: 11732)

INSTRUCTOR: Dr. Jun Wang
OFFICE: MIC D256
PHONE: (660) 543 – 6616
E-mail: jwang@ucmo.edu
OFFICE HOURS: T 9:30 am – 12:00 pm, W 3:00 pm – 5:30, other time by appointment
TEXTBOOK: "Operating System Concepts" 9th Edition, by Silberschatz, Galvin, and Gagne.
PREREQUISITE: CS 4500 or consent of instructor

I.   Purpose of the Course

This course is designed for computer science graduate students. It provides an in-depth study of advanced topics in the field of operating systems such as protection and security, distributed system structures, distributed file systems, multiprocessor operating systems interprocess communication, parallel and concurrent programming.

II.   Objectives and Desired Student Competencies

Upon completion of this course the student should be able to:

    A. Understand structures of operating systems.
    B. Discuss various operating system algorithms.
    C. Understand concepts of protection and security.
    D. Understand scheduling and synchronization in multiprocessor operating systems.
    E. Design and implement multi-process/multi-thread application programs.

III.   Procedures and Policies

1.   Class attendance is mandatory**.** You are expected to attend all lectures and to complete all work assigned. Advance arrangements for unavoidable absence should be made whenever possible. Neither absence nor notification of absence relieves you of the responsibility of meeting all course requirements.

2.   All assignments must be turned in on the due date. Late assignments will not be accepted unless prior arrangements are made with the instructor with acceptable reasons.

3.   All tests and exams will be closed book and closed notes. Make-up exams will be given for valid excuses. They will be slightly more difficult than the regular exam and will be scheduled within five days of the missed exam. No make-up of a make-up exam will be given. The student will initiate the responsibility of a make-up exam.

4.   There will be two exams: a midterm and a final worth 100 points each. Homework, quizzes, and programs of various points will be assigned and collected for an equivalent of 100 test

points. WORK MUST BE SHOWN on homework, quizzes, and exams in order to receive credit. Late homework and programs will not be accepted. A term project, worth 50 points, will be assigned. Students must complete the project in order to pass the course.

❖ Evaluation

Assignment and Quizzes	28.57% (100/350)
Project	14.29% (50/350)
Midterm	28.57% (100/350)
Final	28.57% (100/350)

5. Your final grade will be determined by the points earned divided by the total number of points possible. The following mapping from the percentages to the letter grades will be used.

90 - 100	**A**
80 - 89.9	**B**
70 - 79.9	**C**
60 - 69.9	**D**
Below 60	**F**

"Borderline" cases will be determined by a combination of class attendance, general attitude, improvement, etc.

6. Class notes, announcements, and assignments will be posted on **Blackboard**. It is the responsibility of the student to frequently check Blackboard for course changes and updates. Use of discussion board on Blackboard is highly encouraged for the help of study and any questions to the instructor so that many students can share the information.

7. Academic dishonesty will not be tolerated in this class. DO NOT COPY OTHERS' WORK AND DO NOT LET OTHERS COPY YOUR WORK. Any form of cheating will be dealt with according to the guidelines on page 196-199 of the UCM Planner/Handbook 2016-2017. You can find the Academic Dishonesty Policy on-line at http://www.ucmo.edu/student/documents/honest.pdf. Any student found guilty of cheating is subject to disciplinary action, and may result in the grade of "F" for the course.

Plagiarism behavior in any form is unethical and will be punished. All work submitted by a student (homework, projects, and exams etc.) has to be a student's own work. Students are allowed and encouraged to discuss with other students and look up resources in the literature for their assignments, but appropriate references must be included for the materials consulted, and appropriate citations should be made when the material is taken verbatim.

8. Students with documented disabilities who are seeking academic accommodations should contact the Office of Accessibility Services, Union 224, (V/TTY) 660-543-4421. http://www.ucmo.edu/access

IV. Programs/Project

A number of multiprocess/multithread programs will be assigned. See programming problems 3.21, 3.22, 4.20-4.27, etc.
A process/thread synchronization project will be assigned. See programming projects on pages 251-257. Other classical IPC problems may also be assigned.