CS 5500-Advanced Operating System  
Syllabus, Procedures and Policies  
August, 2015

INSTRUCTOR:  Dr. Bo Li  
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OFFICE HOURS:  1:30pm- 2:30pm T, 3:30 pm-5:30pm R, 2:30pm – 4:30pm S  
(other times by appointment)  
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, inter-process 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. ATTENDENCE: 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. EXAMS, QUIZZES, COURSE PROJECTS: There will be two exams: a midterm and a final. Homework will be regularly assigned for quiz preparation only and will not be collected. Two programming course projects will be assigned separately. WORK MUST BE SHOWN on quizzes, exams and project reports in order to receive credit. No late work will be accepted. Students must complete the projects in order to pass the course.
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.

3. **METHOD OF EVALUATION**: Your grade will be based on quizzes (20%), course projects (20%), mid-term exam (30%), and final exam (30%). In general, A: 90-100, B: 80-89, C: 70-79, D: 60-69, and F: < 60. However, a curve may be given to an exam depending on the overall performance. "Borderline" cases will be determined by a combination of class attendance, general attitude, improvement, etc.

4. **HONOR CODE**: Academic dishonesty will not be tolerated in this class. Any form of cheating will be dealt with according to the guidelines on page 196-199 of the UCM Planner/Handbook 2013-2014. You can also find the Academic Dishonesty Policy online at [http://www.ucmo.edu/student/documents/honest.pdf](http://www.ucmo.edu/student/documents/honest.pdf).

5. **STUDENTS WITH SPECIAL NEEDS**: Students with documented disabilities who are seeking academic accommodations should contact the Office of Accessibility Services, Union 222, 660-543-4421.

IV. Tentative Plan

**Chapters/Sections:**
- Chap 1-4, 5.1-5.7, and 5.9, 6.1-6.6,

**Schedule:**
- **Week 1** Chap 1
- **Week 2** Chap 2
- **Week 3** Chap 3
- **Week 4** Chap 4
- **Week 5** Chap 5
- **Week 6** Chap 6
- **Week 7** Chap 7, Review
- **Week 8** Midterm Exam
- **Week 9** Chap 8
- **Week 10** Chap 9
- **Week 11** Chap 10
- **Week 12** Chap 14
- **Week 13** Chap 15
- **Week 14** Chap 17, Review
- **Week 15** Final Exam

V. Programs/Project

A multiprocess/multithread course project will be assigned. See examples in 3.21, 3.22, 4.20-4.27.

A process/thread synchronization course project will be assigned. See examples in pages 251-257.