CSCI 430 OPERATING SYSTEMS
CSCI 430 001 21839
Spring 2013 (1/14/2013 through 5/10/2013)
Tentative Course Syllabus

CLASS MEETINGS:
Time: Tues & Thurs 12:30PM-1:45PM
Location: Jour104

INSTRUCTOR:
Ünal Sakoglu, Ph.D.
Assistant Professor, Department of Computer Science
Texas A&M University - Commerce
Instructor Office: JOUR209
Instructor Office Hours:
    Tues & Thurs: 11AM-noon & 3:30-5PM
    Wed: noon-5PM
    or by appointment.
e-mail: unal.sakoglu@tamuc.edu
Office Phone: 903-886-5242
URL: http://faculty.tamuc.edu/usakoglu and http://people.tamu.edu/~sakogluunal (more up-to-date)

TEXTBOOK:
Operating Systems Internals and Design Principles - 7th Edition

SUPPLEMENTARY READING (RECOMMENDED, NOT MANDATORY):

COURSE DESCRIPTION:
General theory and concept behind operating system design are studied. Topics include operating
system structures, memory management, process scheduling, process synchronization and
communication, deadlocks, and case studies of other commercially available operating systems.

Credit hours: 3. Prerequisites: CSCI241: Machine Learning and Computer Organization, CSCI270
Data Structures and Algorithms.

STUDENT LEARNING OUTCOMES:
1. List and understand basic functions and parts of an OS.
2. Understand modern memory management techniques, including virtual memory.
3. Know fundamental concepts of OS such as multiprogramming and multiuser systems.
4. Understand process management algorithms, structures and threading.
5. Understand issues with concurrent and parallel programming, including deadlocks.
6. Learn specific mechanisms for modern OS (such as Unix, Linux and Windows 7).
COURSE OUTLINE/CONTENT:

Part One: Background (Chapters 1, 2)
- Chapter 1. Computer system overview (Week 1)
- Chapter 2. Operating system overview (Week 2)

Part Two: Processes (Chapters 3, 4, 5, 6)
- Chapter 3. Process description and control (Week 3 and 4)
- Chapter 4. Threads (Week 5 and 6)
- Chapter 5. Concurrency I: Mutual exclusion (Week 7 and 8)
- Week 8: Midterm Exam
- Chapter 6. Concurrency II: Deadlock and starvation (Week 9)

Part Three: Memory (Chapters 7, 8)
- Chapter 7. Memory management (Week 10 and 11)
- Chapter 8. Virtual memory (Week 11 and 12)

Part Four: Scheduling (Chapters 9, 10)
- Chapter 9. Uniprocessor scheduling (Week 13 & 14)
- Chapter 10. Multiprocessor and real-time scheduling (Week 14 & 15)

*Part Five: I/O and Files (Chapter 11)
- Chapter 11 I/O Management and Disk Scheduling (Week 15)
- Final Week: Final Exam

*Optional. Extra material from Chapters 11 through 16 may be covered if time permits.

EXAMS & GRADING:
- Attendance & Quizzes 20%
- Homework Assignments 30%
- Midterm Exam 20%
- Final Exam (Comprehensive of all the material covered) 30%

COURSE REQUIREMENTS:
Study: To plan a minimum of three hours of outside preparation for each hour of class is a safe time allocation for successfully completing the course.

Assignments: There will be regularly assigned homework problems. These assignments may require the application of various software packages. Assignments will be given and returned via the online eCollege system as a convenience to the students and the instructor. It is the student’s responsibility to login and check the course eCollege site daily for announcements, assignments and course-related content. It is very important that students follow the instructions carefully on the assignments. It is the student’s responsibility to have all assignments ready on time by the given due date. Late assignment may not be accepted or may be penalized and assignment may not be accepted beyond a certain time. Important material from the text and outside sources will be covered in class. Students should plan to take careful notes as not all material can be found in the texts or readings. Discussion is encouraged as is student-procured outside material relevant to topics being covered. End of chapter activities and online activities may be assigned to reinforce material in the text.

Exams: Two exams will be given, one midterm exam and one final exam. The exams will be closed book/notes and will test assigned readings and material discussed in class. The instructor may add other necessary exams if he sees necessary.
Attendance: Student participation will be graded by the level of class participation and attendance. Students are expected to attend every class. The student may fail the course if the attendance is below a certain percentage.

Quizzes: Unannounced pop-quizzes will be given to help ensure students stay up with assigned material. Students can see their graded assignment, quiz and exam papers during the office hours. The students have two weeks to see their graded papers after the grades are announced/uploaded to eCollege. This time duration is one week for the last assignment and the final exam.

Grades accumulated so far in the class by the students may be provided on eCollege to the students as a courtesy by the instructor so that the students can see where they stand gradewise; however, those grades might not be very accurate and the overall course grades are finalized after all the exams, assignments, quizzes and attendances are weighed and evaluated at the end of the semester.

ACADEMIC ETHICS:
"All students enrolled at the University shall follow the tenets of common decency and acceptable behavior conducive to a positive learning environment." (See Student's Guide Handbook, Policies and Procedures, Conduct). Ethics include the issue of plagiarism, and copying parts or whole of assignments, quizzes and exams is just as serious as any other type of plagiarism. If you are caught sharing or using other people's work, you will receive a 0 grade and a warning on the first instance. A subsequent instance will result in receiving an F grade for the course, and possible disciplinary proceedings. The student who shares as well as the one who copies will both receive a 0.

ATTENDANCE POLICY:
Student participation will be graded by the level of class participation and attendance. Students are expected to attend every class. The student may fail the course if the attendance is below a certain percentage. If a student is absent from class on the due date of any assignment, they are expected to make alternative arrangements to assure that the assignment is turned in ON TIME. Any student wishing to withdraw from the course must do so officially as outlined in the class schedule. THE INSTRUCTOR CANNOT DROP OR WITHDRAW ANY STUDENT.

COURSE REQUIREMENT DEADLINES:
Credit will be given for ONLY those exam(s), program(s), and/or project(s) turned in no later than the deadline(s) as announced by the instructor of this class unless prior arrangement has been made with the instructor. Late assignments will be penalized, and the instructor may not accept late assignments after a specified period.

METHOD OF EVALUATION (Tentative):
Final average Letter grade
90 – 100   A
80 – 89.9   B
70 – 79.9   C
60 – 69.9   D
Below 60   F

STUDENTS WITH DISABILITIES REQUIRING ASSISTANCE: The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be
guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you have a disability requiring an accommodation, please contact:

Office of Student Disability Resources and Services
Texas A&M University-Commerce
Gee Library
Room 132
Phone (903) 886-5150 or (903) 886-5835
Fax (903) 468-8148
StudentDisabilityServices@tamuc.edu