

CSci 430 Operating Systems

Course Syllabus

Spring 2018

Instructor

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Class Meetings

This course will be web enhanced. Lectures, notes and course materials will be distributed through our University's eCollege online course system.

0SB/7RB TR 8:00a - 9:15p Location: EDS101

Course Description

Operating Systems (OS). A study of operating systems with emphasis on a multiprogramming environment; concentrates on principles involved in resource management; topics such as job scheduling and memory management are also studied. **Credit hours: 3.**

Prerequisites

CSCI241: Machine Language and Computer Organization; and CSCI270 Data Structures and Algorithms.

Student Learning Outcomes:

- (SLO430.1) Students will be able to identify the basic components, and functions of OS.
- (SLO430.2) Students will be able to identify modern memory management techniques.
- (SLO430.3) Students will be able to identify components of multiprogramming and multiuser OS.
- (SLO430.4) Students will be able to identify processes, threads, and their management by the OS.
- (SLO430.5) Students will be able to identify concurrent programming techniques and job scheduling.

- (SLO430.6) Students will learn about some commercially available modern OS.

Textbook

Required:

Operating Systems Internals and Design Principles (2011). 7th Edition. by William Stallings, Prentice-Hall Inc., 2011, ISBN-10:013230998X.

Recommended:

Operating System Concepts (2006). 7th Edition. by A. Silberschatz and P. Galvin, John Wiley & Sons, Inc., ISBN 0-471-69466-5.

Course Outline / Content

- Part One: Operating System Concepts (Chapters 1, 2)
 Chapter 1. Computer system overview (Week 1)
 Parts of Chapter 2. Operating system overview (Week 2)
 Week 3: Test 1
- Part Two: Processes and Threads (Chapters 3, 4)
 Parts of Chapter 3. Process description and control (Week 3, 4)
 Parts of Chapter 4. Threads (Week 4, 5)
 Week 6: Test 2
- Part Three: Concurrency (Chapters 5, 6)
 Parts of Chapter 5. Concurrency I: Mutual exclusion (Week 7, 8)
 Parts of Chapter 6. Concurrency II: Deadlock/Starve (Week 8, 9)
 Week 9: Test 3
- Part Four: Memory (Chapters 7, 8)
 Parts of Chapter 7. Memory management (Week 10)
 Parts of Chapter 8. Virtual memory (Week 11)
 Week 12: Test 4
- Part Five: Scheduling (Chapters 9)
 Parts of Chapter 9. Uniprocessor scheduling (Week 13)
 Review of the course material; Q&A; wrap-up (Week 14)
 Week 15: Test 5

Evaluation (Tentative)

Your grade for the course will be based on the following (approximate) percentages:

Four Exams	60% (15% each)
Labs / Programming Assignments (appx. 6)	40%

Final Average	Letter Grade
90 - 100	A
80 - 89	B
70 - 79	C
60 - 69	D
Below 60	F

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. Assignments will be given and returned via the online eCollege system as a convenience to the students and the instructor. In general, we will probably have 1 written assignment and/or 1 programming assignment for each of the major parts of the course. 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 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: Four exams will be given. The exams will not be comprehensive, and will focus on the particular materials/readings just covered in the previous 3 to 5 weeks of the course. The instructor may add other exams as they see necessary.

Quizzes: Unannounced pop-quizzes may be given in class and/or online through eCollege to help ensure students stay up with assigned material.

Attendance Policy

Students are expected and strongly encouraged to attend every class, though attendance is not required and will not be taken. However, all instructions and materials presented during class will be expected to be followed by the student even if absent, and may not necessarily be mirrored on the eCollege announcements in all cases. 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.

Student's with Disabilities

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, StudentDisabilityServices@tamuc.edu

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 also includes the issue of plagiarism, and copying code for programming/lab assignments is just as serious as any other type of plagiarism. If you are caught sharing or using other people's work in this class, 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.

Technology Requirements

This course is a web enhanced course, which means all assignments and handouts will be distributed and collected through our University's eCollege online course system.

- To fully participate in online courses you will need to use a current browser, such as Mozilla Firefox or Google Chrome.
- You will need regular access to a computer with a broadband internet connection. The minimum computer requirements are:
 - 512 MB of RAM, 1 GB or more preferred.
 - Broadband connection required by courses that are heavily video intensive.
 - Video display capable of high-color 16-bit display 1024 x 768 or higher resolution.
- You must have a:
 - Sound card, which is usually integrated into your desktop or laptop computer.
 - Speakers or headphones.

Access and Navigation

This course will be facilitated using Pearson LearningStudio, the learning management system used by Texas A&M University-Commerce. To get started with the course, go to myLeo and from the top menu ribbon select eCollege. Then on the upper left side of the screen click on the My Courses tab. <http://www.tamuc.edu/myleo.aspx>

You will need your campus-wide ID (CWID) and password to log into the course. If you do not know your CWID or have forgotten your password, contact the Center for IT Excellence (CITE) at 903.468.6000 or helpdesk@tamuc.edu.

Note: It is strongly recommended you perform a "Browser Test" prior to the start of your course. To launch a browser test login to Pearson LearningStudio, click on the My Courses tab, and then select the Browser Test link under Support Services.

Texas A&M University-Commerce provides students technical support for the use of Pearson LearningStudio. Technical assistance is available 24/7 (24 hours, 7 days a week). If you experience LearningStudio (eCollege) technical problems, contact the LearningStudio helpdesk at 1-866-656-5511 (toll free) or visit Pearson 24/7 Customer Support Site <http://247support.custhelp.com/>

Accessing Help from within Your Course: Click on the 'Tech Support' icon on the upper left side of the screen inside the course. Then you will be able to get assistance via online chat or by phone.

Note: Personal computer and internet connection problems do not excuse the requirement to complete all course work in a timely and satisfactory manner. Each student needs to have a backup method to deal with these inevitable problems. These methods might include the availability of a backup PC at home or work, the temporary use of a computer at a friend's home, the local library, office service companies, Starbucks, a TAMUC campus open computer lab, etc.

myLeo Support: Your myLeo email address is required to send and receive all student correspondence. Please email helpdesk@tamuc.edu or call us at 903-468-6000 with any questions about setting up your myLeo email account. You may also access information at myLeo. <https://leo.tamuc.edu>

Nondiscrimination Notice

Texas A&M University-Commerce will comply in the classroom, and in online courses, with all federal and state laws prohibiting discrimination and related retaliation on the basis of race, color, religion, sex, national origin, disability, age, genetic information or veteran status. Further, an environment free from discrimination on the basis of sexual orientation, gender identity, or gender expression will be maintained.

Campus Concealed Carry Statement

Texas Senate Bill - 11 (Government Code 411.2031, et al.) authorizes the carrying of a concealed handgun in Texas A&M University-Commerce buildings only by persons who have been issued and are in possession of a Texas License to Carry a Handgun. Qualified law enforcement officers or those who are otherwise authorized to carry a concealed handgun in the State of Texas are also permitted to do so. Pursuant to Penal Code (PC) 46.035 and A&M-Commerce Rule 34.06.02.R1, license holders may not carry a concealed handgun in restricted locations.

For a list of locations, please refer to the Carrying Concealed Handguns On Campus document and/or consult your event organizer.

Web url: <http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/34SafetyOfEmployeesAndStudents/34.06.02.R1.pdf>

Pursuant to PC 46.035, the open carrying of handguns is prohibited on all A&M- Commerce campuses. Report violations to the University Police Department at 903- 886-5868 or 9-1