

Syllabus

CSCI 530.03B – Operating Systems

Texas A&M University Commerce

Spring 2019

Instructor: Dr. Omar El Ariss

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Office Hours:

Day	Time
Tuesday	2:00 pm - 5:00 pm
Thursday	4:00 pm - 5:00 pm
Zoom	By appointment

There are many ways to reach me. There is no substitute for face-to-face communication which often leads to more refined and focused questions resulting in your improved understanding. I strongly encourage you to take advantage of my office hours. Questions during class or immediately after class are always welcomed. Email is an easy way to ask questions outside of class but is not productive as face-to-face communication. I usually respond to emails within 24 hours.

Meeting Time and Place

Thursday 2:00 pm to 4:00 pm, JOUR 102

Required Textbook

- *“Operating Systems Internals and Design Principles”* by William Stallings, ISBN 9780133805918, Pearson, 8th Edition, 2015.

Recommended Textbook

- *“Understanding Operating Systems”* by Ann McIver McHoes and Ida M. Flynn, ISBN 9781285096551, Cengage Learning, 7th Edition, 2014.

Prerequisite

CSCI 515 (Min Grade B), CSCI 516 (Min Grade B)

Course Objectives

This course focuses on operating system structure and design techniques; process management, CPU and disk scheduling; process synchronization, concurrency, and memory and file management, device management, virtual memory; mass storage and I/O systems and OS security.

Course Outcomes

Upon completion of this course, students will be able to:

- Explain the basic components, and functions of modern operating systems
- Explain memory management techniques
- Describe the reason for and use of cache memory
- Analyze processes, threads, and concurrency issues and process synchronization
- Identify concurrent programming techniques and job scheduling
- Explain file management, mass storage, and I/O systems

Homework Assignments & Project

There will be a number of assignments. Homework assignments must be done individually. In addition, students will work in groups of two on a research project and then present it to the class.

Grading

- Homework & Project: 40% of grade
- Midterm Exam: 25% of grade
- Final Exam: 35% of grade

Letter grades will be determined using a standard percentage of points scale:

Letter Grade	Cut-off Score
A	90%
B	80%
C	70%
D	60%
F	Below 60%

Class attendance, doing all your project and homework will help the borderline cases. Check your grades often. Any score may be disputed up to seven (7) days after the score is posted. After 7 days the score remains as-is.

Minimal Technical Skills Needed

Proficiency in a high-level programming language, using an IDE, learning management system and word processing.

Methods of Instruction

The course will consist mainly of lectures, discussions and student presentations. Important material from the text and outside sources will be covered in class. Therefore, class attendance and good note taking are essential for success. Students are expected to contribute to each class in the form of discussion and questions. Therefore, it is necessary to do any required reading before class.

This syllabus contains an overview of what will be covered in class; for specific information, students are referred to the class web page maintained on D2L course management system. The course web page will contain lectures, project information and supporting material. Information on D2L will be updated frequently

so it is a good idea to check it regularly. Assignments are posted on D2L and should be submitted through D2L.

Attendance

You are expected to attend every class. If you must miss a class, it is your responsibility to make up for the work that you missed. If you are going to be absent from class please notify the instructor in advance.

Late Submissions Policy

All work submitted electronically must be submitted by midnight of the due date. Late work will be deducted 10% for each day past the due date. Assignment will not be accepted after three days from the due date.

Make-up Policy

No individual make-up test will be permitted except in the case of a formal institutional excuse. There will be no makeup for project deliverables.

Syllabus Change Policy

The syllabus is a guide. Circumstances and events, such as student progress, may make it necessary for the instructor to modify the syllabus during the semester. Any changes made to the syllabus will be announced in advance.

Student Conduct

All students enrolled at the University shall follow the tenets of common decency and acceptable behavior conducive to a positive learning environment. The Code of Student Conduct is described in detail in the Student Guidebook. <http://www.tamuc.edu/admissions/registrar/documents/studentGuidebook.pdf> Students should also consult the Rules of Netiquette for more information regarding how to interact with students in an online forum: Netiquette <http://www.albion.com/netiquette/corerules.html>

Academic Honesty

"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). It is the policy of the University, that no form of plagiarism or cheating will be tolerated. Plagiarism is defined as the deliberate use of another's work and claiming it as one's own. This means ideas as well as text or code, whether paraphrased or presented verbatim (word-for-word). Cheating is defined as obtaining unauthorized assistance on any assignment. Proper citation of sources must always be utilized thoroughly and accurately. 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. If you are unclear about what constitutes academic dishonesty, ask.

For more details and the definition of academic dishonesty see the following procedures:

[Undergraduate Academic Dishonesty 13.99.99.R0.03](#)

<http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/13students/undergraduates/13.99.99.R0.03UndergraduateAcademicDishonesty.pdf>

Special Needs

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 162

Phone (903) 886-5150 or (903) 886-5835

Fax (903) 468-8148

Email: studentdisabilityservices@tamuc.edu

Website: Office of Student Disability Resources and Services

<http://www.tamuc.edu/campusLife/campusServices/studentDisabilityResourcesAndServices/>

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 9-1-1.

Tentative Course Outline

Week	Content
1	Computer system overview (Chapter 1)
2, 3	Operating system overview (Chapter 2)
3, 4	Process description and control (Chapter 3)
5, 6	Threads (Chapter 4)
6-7	Concurrency I: Mutual exclusion (Chapter 5)

8	Midterm Exam , Concurrency II: Deadlock and starvation (Ch 6)
9	Concurrency II: Deadlock and starvation (Chapter 6)
10	Memory management (Chapter 7)
11, 12	Virtual memory (Chapter 8)
13	Thanksgiving Break
14-15	Scheduling (Chapters 9 & 10)
16	Final Exam (comprehensive)