



## **CSCI, 430, 61E, Introduction to Operating Systems**

COURSE SYLLABUS: Spring 2020

### **INSTRUCTOR INFORMATION**

Instructor: Dr. Srujan Kotikela, Assistant Professor  
Office Location: ACB1 306  
Office Hours: Tuesday & Thursday 1PM – 4PM, Other times by appointment  
Office Phone: 979-317-3429  
Office Fax: N/A  
University Email Address: Srujan.Kotikela@tamuc.edu  
Preferred Form of Communication: **email**  
Email Subject: **CSCI 430-61E-blahblahblah**  
Communication Response Time: 24 hours or sooner

### **COURSE INFORMATION**

Materials – Textbooks, Readings, Supplementary Readings

**Required:**

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

**Recommended:**

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

### **Course Description**

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. Prerequisites: CSCI 241 or [COSC 2325](#); and CSCI 270 or [COSC 2336](#). (3 credit hours)

*The syllabus/schedule are subject to change.*

## **Student Learning Outcomes**

1. (SLO430.1) Students will be able to identify the basic components, and functions of OS.
2. (SLO430.2) Students will be able to identify modern memory management techniques.
3. (SLO430.3) Students will be able to identify components of multiprogramming and multiuser OS.
4. (SLO430.4) Students will be able to identify processes, threads, and their management by the OS.
5. (SLO430.5) Students will be able to identify concurrent programming techniques and job scheduling.
6. (SLO430.6) Students will learn about some commercially available modern OS.

## **COURSE REQUIREMENTS**

### **Minimal Technical Skills Needed**

Students should be proficient in a high level programming language, like C++, Python or Java.

### **Instructional Methods**

All materials, assignments and tests will be conducted through the D2L MyLeo Online learning system.

### **Student Responsibilities or Tips for Success in the Course**

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.

## **GRADING**

Final grades in this course will be based on the following scale:

A = 90%-100%

B = 80%-89%

C = 70%-79%

D = 60%-69%

F = 59% or Below

Assignments: There will be regularly assigned homework problems and programming problems. Assignments will be given and returned via the online MyLeo Online (D2L) system as a convenience to the students and the instructor. In general, we will probably have 1 written assignment (problem set) and/or 1 programming assignment for each of

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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: Five 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.

### **Assessments**

Exams (5): 50% (10% each)

Problem Sets (5): 25% (5% each)

Programming Assignments (5): 25% (5% each)

## **TECHNOLOGY REQUIREMENTS**

### **LMS**

All course sections offered by Texas A&M University-Commerce have a corresponding course shell in the myLeo Online Learning Management System (LMS). Below are technical requirements

LMS Requirements:

<https://community.brightspace.com/s/article/Brightspace-Platform-Requirements>

LMS Browser Support:

[https://documentation.brightspace.com/EN/brightspace/requirements/all/browser\\_support.htm](https://documentation.brightspace.com/EN/brightspace/requirements/all/browser_support.htm)

YouSeeU Virtual Classroom Requirements:

<https://support.youseeu.com/hc/en-us/articles/115007031107-Basic-System-Requirements>

## **ACCESS AND NAVIGATION**

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](mailto:helpdesk@tamuc.edu).

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**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.

## **COMMUNICATION AND SUPPORT**

If you have any questions or are having difficulties with the course material, please contact your Instructor.

### **Technical Support**

If you are having technical difficulty with any part of Brightspace, please contact Brightspace Technical Support at 1-877-325-7778. Other support options can be found here:

<https://community.brightspace.com/support/s/contactsupport>

### **Interaction with Instructor Statement**

Please use e-mail and through the MyLeoOnline course to ask questions and for help, and to set up additional appointments if needed. We may use some of the MyLeoOnline virtual classroom tools this semester for online class feedback sessions.

## **COURSE AND UNIVERSITY PROCEDURES/POLICIES**

### **Course Specific Procedures/Policies**

There will be no make up or extra credit for late assignments. You must turn in all assignments by the require due date, or notify the instructor with a valid reason for missing an assignment.

### **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.

### **University Specific Procedures**

#### **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](#).

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<http://www.tamuc.edu/Admissions/oneStopShop/undergraduateAdmissions/studentGuidebook.aspx>

Students should also consult the Rules of Netiquette for more information regarding how to interact with students in an online forum:

<https://www.britannica.com/topic/netiquette>

### **TAMUC Attendance**

For more information about the attendance policy please visit the [Attendance](#) webpage and [Procedure 13.99.99.R0.01](#).

<http://www.tamuc.edu/admissions/registrar/generalInformation/attendance.aspx>

<http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/13students/academic/13.99.99.R0.01.pdf>

### **Academic Integrity**

Students at Texas A&M University-Commerce are expected to maintain high standards of integrity and honesty in all of their scholastic work. 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>

[Graduate Student Academic Dishonesty 13.99.99.R0.10](#)

<http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/13students/graduate/13.99.99.R0.10GraduateStudentAcademicDishonesty.pdf>

### **Students with Disabilities-- ADA Statement**

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](mailto:studentdisabilityservices@tamuc.edu)

Website: [Office of Student Disability Resources and Services](#)

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<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.

### **COURSE OUTLINE / CALENDAR**

- Part One: Operating System Concepts (Chapters 1, 2)
  - Chapter 1. Computer System overview (Week 1)
  - Chapter 2. Operating system overview (Week 2)
  - Test 1 (Week 3)
- Part Two: Processes and Threads (Chapters 3, 4)
  - Chapter 3. Process description and control (Week 4)
  - Chapter 4. Threads (Week 5)
  - Test 2 (Week 6)
- Part Three: Concurrency (Chapters 5, 6)
  - Chapter 5. Concurrency I: Mutual exclusion (Week 7)
  - Chapter 6. Concurrency II: Deadlock/Starvation (Week 8)
  - Test 3 (Week 9)
- Part Four: Memory Management (Chapters 7, 8)
  - Chapter 7. Memory management (Week 10)
  - Chapter 8. Virtual memory (Week 11)
  - Test 4 (Week 12)
- Part Five: Scheduling (Chapters 9, 10)
  - Chapter 9. Uniprocessor scheduling (Week 13)
  - Chapter 10. Multiprocessor scheduling (Week 14)
  - Test 5 (Week 15)

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