

CSCI 530 (2017 Syllabus) – Operating Systems

02W 81429 Tanik, Urcun 25 27

Meets 8/28/2017 through 12/15/2017

Web Based Class

Vita Books/Materials

Department Approval Req

Prerequisites: Lvl G CSCI 515 Min Grade B or C515 075 or W515 0 and Lvl G CSCI 516 Min Grade B or C516 075 or W516 0

INSTRUCTOR:

Dr. Tanik

Assistant Professor, Department of Computer Science

Texas A&M University - Commerce

Instructor Office Hours: JOUR210: W/Th315-5pm, M-F 11-7pm anytime by appt

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Office Phone: 903-886-5419

TEXTBOOK:

Operating Systems Internals and Design Principles - 8th Edition

by William Stallings Prentice-Hall Inc., 2014, ISBN-13: 978-0133805918 ISBN-10: 0133805913 Edition: 8th

COURSE DESCRIPTION:

Operating Systems. Three semester hours. The course objectives are two-fold: (1) to learn general theory, concept, and techniques related to the design of operating systems; (2) to practice the design of an operating system by performing a design project. The course is basically divided into four sections: Introduction to Operating Systems, Process Management, Storage Management, and UNIX (Shell and Interpreter).

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 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.

EXAMS & GRADING:

Attendance, class-participation & quizzes 10%

Homework Assignments 20%

Project 20%

Midterm Exam 20%

Final Exam (Comprehensive of all the material covered) 30%

COURSE OUTLINE/CONTENT:

Part One: Background (Chapters 1, 2)

Chapter 1. Computer system overview (Week 1)

Parts of Chapter 2. Operating system overview (Week 2)

Part Two: Processes (Chapters 3, 4, 5, 6)

Parts of Chapter 3. Process description and control (Week 3)

Parts of Chapter 4. Threads (Week 4)

Parts of Chapter 5. Concurrency I: Mutual exclusion (Week 5)

Midterm Exam: Chapters 1-5

Project-v1 (Week 5)

Parts of Chapter 6. Concurrency II: Deadlock and starvation (Week 6)

Part Three: Memory (Chapters 7, 8)

Parts of Chapter 7. Memory management (Week 7)

Parts of Chapter 8. Virtual memory (Week 8)

Project-v2 (Week 8)

Part Four: Scheduling (Chapters 9, 10)

Parts of Chapter 9. Uniprocessor scheduling (Week 9)

Parts of Chapter 10. Multiprocessor scheduling (Week 10)

UNIX and review/final project work (Week 11-16)

Final Exam: Chapters 1-10*

***UNIX examples will be reviewed within the chapters covered.**

COURSE REQUIREMENTS: See Rubric on wix course site posted on e-college for detail

Study: Plan a minimum of three hours of outside preparation for each hour of class

Assignments: Project work will include industry best practices. There will be regularly assigned homework. Assignments will be posted online on a website dedicated to CSCI 530. The eCollege system (<https://secure.ecollege.com/tamuc>) will be utilized for announcements and all student official submissions. A course wix site provides the slides and other support material. The instructor may add other necessary work to help graduate students prepare for graduate level work or jobs.

Online management: Follow announcements [Online class is all online announcements]. It is the student's responsibility to login and check the eCollege course shell/site daily for announcements,

assignments, and course-related content. It is very important that students follow the instructions carefully on the assignments.

Late work: It is the student's responsibility to have all assignments ready on time by the given due date or be penalized, unless prior arrangement has been made with the instructor. See "course requirements deadlines" section for further detail.

Exams: Two exams will be given, one midterm exam and one final exam. The exams will test assigned readings and material covered in class, including project work.

Attendance: Student participation will be checked with routine work given weekly.

Quizzes: Quizzes may be given as needed.

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 warning on the first instance and you might receive a 0 grade. A subsequent instance might 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 assignments 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. Assignments include exam(s), program(s), and/or project(s), as well as routine homework and quizzes.

METHOD OF EVALUATION (Tentative):

Final average Letter grade

90 – 100 A

80 – 89.99 B

70 – 79.99 C

60 – 69.99 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

UNIVERSITY RULES AND PROCEDURES can be accessed at
[http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/Section 13 is about Students \(Academic\).](http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/Section%2013%20is%20about%20Students%20(Academic).)

Smoke, Vapor & Tobacco Free Environment:

University Procedure 34.05.99.R1 now prohibits the use of vapor/electronic cigarettes, smokeless tobacco, snuff and chewing tobacco inside and adjacent to any building owned, leased, or operated by A&M – Commerce

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 (<http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/34SafetyOfEmployeesAndStudents/34.06.02.R1.pdf>) and/or consult your event organizer). 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.

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.