

CSCE-4600 INTRODUCTION TO OPERATING SYSTEMS

Spring 2018

Meeting Time and Place:

TR 11:30 am-12:50 pm in NTDP B185

Instructor: XUAN GUO

Office: NTDP F290

Guo's Office Hours: T 1:30 – 3 pm or by appointment

TA: Robert Podschwadt

TA Office Hours: M 1pm-3pm, W 1pm-3pm, F257

Graders: Vishnu Vardhan Oliveti & Srikanth Babu Pusapati

Grader Office Hours: T 1:30 pm – 4:30 pm and R 1:30 pm – 4:30 pm, F208

Please communicate with Instructor, TA, and Graders through Blackboard.

Textbook: " Operating System Concepts Essentials 2nd Edition" by Silberschatz, Galvin, and Gagne

Course Web Page: UNT Blackboard

Expected background: Systems Programming (or equiv.)

Operating Systems

After a brief overview of the different issues we will encounter during this course, we will review the principles of Operating Systems in detail. This course will focus specifically on the management of processes and their coordination, deadlocks, memory management, process scheduling, and security. Time permitting, we will discuss some of the critical issues in the area of distributed systems. The course will loosely follow the textbook. However, we will study material from many other sources, e.g., journals and other books. The course will strike a balance between the programmer's (applied) perspective and a theoretical view of operating systems.

Tentative Schedule of Topics:

Week:	Topic:
1	Introduction to OS – an overview
2	Introduction to OS continued:
3	Operating System Structures and Introduction to Processes
4	Processes & Threads – basic concepts
5	Process Synchronization and Coordination
6	Classic Process Coordination Problems
7	Higher-Level Synchronization Mechanisms
8	Process Scheduling – Conventional and Real-Time
9	Real-Time Scheduling, Intro to Process Synchronization
10	Intro to Deadlocks
11	Deadlock Avoidance and Prevention
12	Main Memory Management
13	Virtual Memory
14	Protection and Security
15	Distributed Systems (time permitting)
16	Finals Week

Homework:

There will be regular (4-5) homework assignments. Homework assignments are to be completed **individually** (see policies) unless specified otherwise. Homework will consist of problem sets as well as small programming assignments. It is important to spend the time to experiment with the various program elements, so start your homework promptly. All assignment submissions must be typed. **Handwritten assignments WILL NOT be graded.**

Projects:

There will be two course projects for which you will be expected to be completed **individually**. **Each project must be accompanied by a detailed project report describing the problem, the implementation, experiments and results as well as their interpretation.**

Office Meeting Assignments:

Before the final exam, you will be expected to meet the instructor during office hours at least **TWICE**, one before the mid-term exam, another after the mid-term exam. It provides you the opportunity to ask questions, to make any suggestions about this course, and to let the instructor know you.

Examinations:

There will be two exams, each covering separate parts of the course material.

Grading:

Item	% of final grade
Homework	25%
Projects (2)	30%
Office Meeting	5%
Tests (2)	40%

Course Policies:

- **Attendance:** Students are expected to attend all lectures. There are aspects of the material that are being discussed in class which are not found in the textbook or the slides. Further, in-class discussions are an important part of the course, and students should actively participate.
- **All homework assignments and projects** must be turned in at the beginning of class on their respective due date. Late assignments will be accepted with a 25% penalty per day. Assignments that are submitted more than two days past their deadline will not be accepted and not graded. All assignment submissions must be typed.
- **Cheating and Plagiarism** will not be tolerated. Anyone found guilty of cheating on a test or assignment will receive zero points for the entire unit of work and will receive a lowering of the grade for the course. Discussions of problems and assignment with your classmates are welcome and encouraged, however, sharing of solutions **is not**. If you need help, you should ask the Grader, the TA, or the Instructor. Cheating includes, but is not limited to, all forms of plagiarism and misrepresentation. For more information, please see UNT Policy **06.003 Student Academic Integrity**
- **Outside sources** such as Wikipedia, YouTube, Journal or Conference articles may only be used as study aid but shall never be used as a source of specific solutions to any assignments unless specifically permitted.
- **There will be NO "make-up" Exams.** In case of verifiable emergencies, arrangements must be made with the instructor.
- **There will be NO early Exams.**
- **ADA:** The Computer Science Department and this instructor cooperate with the Office of Disability Accommodation to make reasonable accommodations for qualified students (cf. Americans with Disabilities Act and Section 504, Rehabilitation Act) with disabilities. If you have not registered with ODA, we encourage you to do so. If you have a disability for which you will require accommodation, please discuss with me after class and present a written accommodation request before the 2nd week of class.

Please provide the following information and submit this page at the end of the first class.

First Name: _____

Last Name: _____

E-MAIL: _____

I have read and understood the above course policies!

Initial: _____