CS 630: Spring/Online : Operating Systems Design

Instructor: **Dr. Lay**
Email: lay@njit.edu
Phone: 973 596 2654
Office Hours: Online meetings with prior appointments.
Office: GITC 4401 (online meeting preferred. In person meeting only with appointments.)

Course Content: *Organization of operating systems covering structure, process management and scheduling; interaction of concurrent processes; interrupts; I/O, device handling; memory and virtual memory management.*

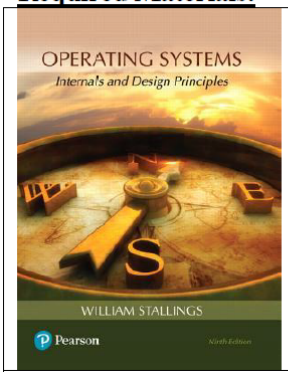
This course does not talk about how to use WINDOWS and its associated applications.
This course will talk about how an operating system is programmed, and how a modern OS will facilitate an application program.
You should NOT take this course.

1. *If you are not interested in writing computer programs using any coding language*
2. *If you do not want to read any programming code*

Students are expected to know all fundamentals of computer programming.
And this course is NOT designed for students who are only interested in business management.

- **The NJIT Honor Code will be upheld, and that any violations will be brought to the immediate attention of the Dean of Students.**
- **Each student has the responsibility to monitor https://canvas.njit.edu/ for updates and assignments!**

Required Materials:



Text: **Operating Systems: Internals and Design Principles (9th Edition)**

- **Publisher:** Prentice Hall;
- **ISBN-10:** 013-380591-3
- **ISBN-13:** 9780-380591-8

Ethics and Integrity:
Each student is expected to write her/his own assignments. Students may work in groups to discuss the issues, but when it comes time to write, students MUST submit their own work product.

Quizzes:
Reminder: You should do Homework of the corresponding Chapter before you take quizzes.
In each class, a quiz may be given for the materials taught last week and before. There is no make-up for quizzes. There will be at least 10 quizzes. Types of questions: True/False, Multiple choices, Fill in the blanks, and problems/calculations.

All quizzes are closed note and closed book. NO makeup for any reason. If your absence is legitimate, you will need approval from the Dean of the Students. And only so I will waive the quiz to be counted into total grades.

How to prepare quizzes:
To prepare the quizzes and exams you will need to read textbook, at least once. Power-point slides and the notes below slides are good summaries of textbook. Make sure you go over the definition of "Key Terms" at the end of each chapter.

Grading:
The final grade will be calculated based upon the following points:

Graded Tasks	Points	Grading Guidelines
Online Homework	10%	
Project	20%	
Quizzes	10%	
Midterm Exam	30%	
Final Exam	30%	

Total: 100%

Grading Policies
A 85% and above
B 70% and above (B+ 78% and above)
C 55% and above (C+ 63% and above)
F otherwise

P.S. The schedule is subject to change without prior notice.

How to ask questions:
Please ask all your questions in Piazza or **"Inbox"** of Canvas. Questions via email may not be answered at all!

Project: To be determined.

Extra Credits / Extra Assignments
Please do not request either extra credits or extra assignments. You need to focus on doing well in each assignment.

Week	Ending date	**Content**
1	19-Jan	Chapter 1: Computer System Overview
2	26-Jan	Chapter 2: Operating System Overview
3	2-Feb	Chapter 3: Process Description and Control
4	9-Feb	CH3 continued
5	16-Feb	Chapter 4: Threads
6	23-Feb	Chapter 5: Concurrency: Mutual Exclusion and Synchronization
7	1-Mar	CH5 continued
8	**8-Mar**	**Midterm exam**
9	15-Mar	Spring Break
10	22-Mar	Chapter 6: Concurrency: Deadlock and Starvation
11	29-Mar	Chapter 7: Memory Management
12	5-Apr	Chapter 8: Virtual Memory
13	12-Apr	Chapter 9: Uniprocessor Scheduling
14	19-Apr	Chapter 10: Multiprocessor and Real-Time Scheduling
15	26-Apr	Reserved for catching up
	2-May	Reading Date
	TBD	**Final Exam**