NEW YORK UNIVERSITY

Tandon School of Engineering
Department of Electrical & Computer Engineering

CS-GY 6233
Introduction to Operating Systems
Spring 2022

General Information:

Instructor : Omar Mansour, Ph.D.

Email : omansour@nyu.edu

Class sessions : Wednesdays, 6:00 to 8:30 pm, Rogers Hall, room 325

Credit Hours : 3

Required Text Book:

Silberschatz, Galvin and Gagne, *Operating System Concepts*, 9th edition, Wiley.

Course Description:

This course covers the functions and organization of operating systems, including process management, memory management, resource allocation, input/output systems and information protection.

Pre-requisites:

Computer architecture

C language programming

Data structures

Course Objectives:

1. Acquiring fundamental knowledge and proficiency in modern operating system design.
2. Learning how to use utilities provided by modern operating systems in developing reliable applications that can interact with the system and with other local or remote applications.

Grading range:

Grade letter	Percentage of available points
A	94-100
A-	88-93
B+	82-87
B	76-81
B-	70-75
C+	60-69
C	50-59

Grading:

Assignments and participation : 30%

Mid-term exam : 30%
Final exam : 40%

Attendance and Participation policy:

- Attendance and participation includes attendance, class participation (e.g. answering questions posed by the instructor), quizzes, in-class assignments, etc.
- If I notice a significant amount of class absence or lack of participation in assignments, quizzes, etc., I may notify you by email, and it may result in failing or being withdrawn from the course.

Assignments policy:

1. Assignments must be submitted on or before 11:55 pm on the day they are due.
2. Late assignments will not be permitted.
3. Students are required to perform the work pertaining to the assignments **alone.** This includes programming assignments. Students however are encouraged to discuss the concepts pertaining to the course or the assignments with other students or with their teaching assistants, while doing the actual work themselves.
4. Copying of code or answers to homework questions is an act of plagiarism. If the teaching assistant suspects any type of cheating or plagiarism, he/she may ask the student involved for discussing his/her work.

Syllabus (tentative):

Week	Description
1	Introduction
2	Operating systems architecture
3	Processes and operating system data structures
4	Inter-process communications
5	Threads
6	Synchronization
7	Midterm exam
8	Deadlocks
9	Scheduling
10	Memory management
11	Virtual memory
12	Disk Management
13	I/O and file systems
14	Final exam

Inclusion Statement

The NYU Tandon School values an inclusive and equitable environment for all our students. I hope to foster a sense of community in this class and consider it a place where individuals of all backgrounds, beliefs, ethnicities, national origins, gender identities, sexual orientations, religious and political affiliations, and abilities will be treated with respect. It is my intent that all students' learning needs be addressed both in and out of class, and that the diversity that students bring to this class be viewed as a resource, strength and benefit. If this standard is not being upheld, please feel free to speak with me.

Moses Center Statement of Disability

If you are student with a disability who is requesting accommodations, please contact New York University's Moses Center for Students with Disabilities (CSD) at 212-998-4980 or mosescsd@nyu.edu. You must be

registered with CSD to receive accommodations. Information about the Moses Center can be found at www.nyu.edu/csd. The Moses Center is located at 726 Broadway on the 3rd floor.

Academic Honesty:

Students at NYU are expected to be honest and forthright in their academic endeavors. Academic dishonesty includes cheating, unapproved collaboration, coercion, inventing false information or citations, plagiarism, tampering with computers, destroying other people's coursework, lab or studio property, theft of course materials, or other academic misconduct. If you have questions regarding this policy, contact your professor *prior* to submitting the work for evaluation. See your academic catalogue for a full explanation.

All students must adhere to the NYU Tandon school of engineering's "Student Code of Conduct", https://engineering.nyu.edu/campus-and-community/student-life/office-student-affairs/policies/student-code-conduct.

All assignments, unless otherwise explicitly listed, are to be done independently. Unless explicit permission from the instructor is provided, no outside sources may be used. If you have any doubts of your sources or their applicability, please contact the instructor as soon as possible.

Anyone caught cheating in this course will receive a "0" on the assignment/assessment and the professor additionally retains the option of significantly reducing the final grade. If a student is caught a second time in, he/she shall fail the course.

NYU School of Engineering Policies and Procedures on Academic Misconduct

A. Introduction: The School of Engineering encourages academic excellence in an environment that promotes honesty, integrity, and fairness, and students at the School of Engineering are expected to exhibit those qualities in their academic work. It is through the process of submitting their own work and receiving honest feedback on that work that students may progress academically. Any act of academic dishonesty is seen as an attack upon the School and will not be tolerated. Furthermore, those who breach the School's rules on academic integrity will be sanctioned under this Policy. Students are responsible for familiarizing themselves with the School's Policy on Academic Misconduct.

B. Definition: Academic dishonesty may include misrepresentation, deception, dishonesty, or any act of falsification committed by a student to influence a grade or other academic evaluation. Academic dishonesty also includes intentionally damaging the academic work of others or assisting other students in acts of dishonesty. Common examples of academically dishonest behavior include, but are not limited to, the following:

1. Cheating: intentionally using or attempting to use unauthorized notes, books, electronic media, or electronic communications in an exam; talking with fellow students or looking at another person's work during an exam; submitting work prepared in advance for an in-class examination; having someone take an exam for you or taking an exam for someone else; violating other rules governing the administration of examinations.
2. Fabrication: including but not limited to, falsifying experimental data and/or citations.
3. Plagiarism: intentionally or knowingly representing the words or ideas of another as one's own in any academic exercise; failure to attribute direct quotations, paraphrases, or borrowed facts or information.
4. Unauthorized collaboration: working together on work that was meant to be done individually.

5. Duplicating work: presenting for grading the same work for more than one project or in more than one class, unless express and prior permission has been received from the course instructor(s) or research adviser involved.
6. Forgery: altering any academic document, including, but not limited to, academic records, admissions materials, or medical excuses.