Boston University Metropolitan College

Operating Systems
MET CS 575
Course Format -> On Campus
Tuesdays 6:00 PM – 9:30 PM
Summer 2019

Instructor: Dr. Mehrdad Nourai
Email: mnourai@bu.edu
Office hours: after class

Course Description
Overview of operating system characteristics, design objectives, and structures. Topics include concurrent processes, coordination of asynchronous events, file systems, resource sharing, memory management, security, scheduling, and deadlock problems. 4 credits.

Prerequisites:
MET CS 472 and MET CS 231 or MET CS 232. Or instructor's consent.

Text Book
Operating System Concepts 9th Edition, Silberschatz, Galvin, and Gagne - Wiley

Courseware
Blackboard website: https://learn.bu.edu/

Class Policies
1) **Attendance & Absences** – Attendance is expected at all class meetings and it is part of your class participation grade. You are responsible for all materials discussed in class.
2) **Assignment Completion & Late Work** – It is expected that you submit all coursework on or before published due dates. No late work or extension will be scheduled except in emergency cases.
3) **Assessments** – No make-up quizzes or exams will be scheduled except in emergency cases.
4) **Incomplete and withdrawal** – An incomplete grade is rarely given and the instructor reserves all the rights for its consideration. It is for a case that the student has actively participated in the course throughout the semester with good standing and completed majority of the coursework with good grades, but due to unforeseen circumstances has missed minor coursework toward the end of the semester. For all other reasons, it is the student's responsibility to file an official withdrawal form with the registrar's office.
5) **Classroom Expectations** – Please respect your classmates by turning off your phone or other electronic devices before class begins, and do not use them during class. I encourage you to participate in class discussions and ask questions.

6) **Academic Conduct Code** – It is your responsibility to comply with the Academic Conduct Code policy. The following is an important message from the MET Dean: "Cheating and plagiarism will not be tolerated in any Metropolitan College course. They will result in no credit for the assignment or examination and may lead to disciplinary actions. Please take the time to review the Student Academic Conduct Code: http://www.bu.edu/met/metropolitan_college_people/student/resources/conduct/code.html. This should not be understood as a discouragement for discussing the material or your particular approach to a problem with other students in the class. On the contrary – you should share your thoughts, questions, and solutions. Naturally, if you choose to work in a group, you will be expected to come up with more than one and highly original solutions rather than the same mistakes."

Objectives
By the end of the course, students are expected to:
- Understand the fundamental concepts of operating systems, including OS structures, processes/threads management, synchronization, deadlocks, memory management, filesystems, disk, I/O, protection and security.
- Develop hands-on experience on Linux-programming.
- Be introduced to the Linux kernel source code and simple kernel-level programming.

Course Requirements
- Class discussions and participation
- Reading and studying
- Assignments
- Term-Project & Presentation
- Assessments
- Additional reading materials (if assigned)

Strategies for Learning
We will cover many materials that require critical thinking and practice to master. The following are strategies for in-depth learning of the materials:
- Attend class and take notes.
- Read the textbook and any additional materials covered in class.
- Explore online resources, e.g., articles, tutorials, source code, documentation, etc.
- Form a study group.
- Participate in class discussions.
- The more time and effort you expend, the more benefits you will receive.

Boston University Metropolitan College

Grade Calculation:
Grades will be weighed as follows.

Item	Percentage of Grade
Assignments & Class Participation	10
Term-Project & Presentation	15
Quiz 1	20
Quiz 2	20
Final Exam	35
Total	100

The number grade calculated will be converted to a letter grade using the following table.

Calculated Grade (G)	Letter Grade	Calculated Grade (G)	Letter Grade
95 ≤ G ≤ 100	A	70 ≤ G < 75	C+
90 ≤ G < 95	A-	65 ≤ G < 70	C
85 ≤ G < 90	B+	60 ≤ G < 65	C-
80 ≤ G < 85	B	50 ≤ G < 60	D
75 ≤ G < 80	B-	0 ≤ G < 50	F

Boston University Metropolitan College

Class Meetings, Lectures & Assignments:
This is a tentative schedule & a live document. The instructor reserves the rights to make changes.

Date	Topic	Readings Due	Assignments Due
May 21	OS Introduction, Virtual Machines	Chapters 1, 16	
May 28	OS Structures, Processes	Chapters 2, 3	
June 4	Processes, Threads	Chapters 3, 4	Assignment 1
June 11	Quiz 1		**(Chapters 1, 2, 3, 4)**
June 18	CPU Scheduling	Chapter 6	**Survey paper topic Due (Deliverable 1)**
June 25	Process Synchronization, Deadlocks	Chapters 5, 7	Assignment 2
July 2	Main Memory	Chapter 8	**Annotated Bibliography Due (Deliverable 2)**
July 9	Quiz 2		**(Chapters 5, 6, 7, 8)**
July 16	Virtual Memory, Mass-Storage Structure	Chapters 9, 10	Assignment 3
July 23	I/O Systems, Protection & Security	Chapters 13-15	Assignment 4
July 30	Project Presentations		**Final Paper Due (Deliverable 3)**
August 6	Final Exam		**All covered materials**