Boston University Metropolitan College

Operating Systems
MET CS 575
Course Format – On Campus
Tuesdays 6PM-9:30PM
Summer Twelve-Week Session 2016

Instructor: Mehrdad (Mike) Nourai
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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, it is your class participation grade. You are responsible for ALL the materials covered and discussed in class. Missing important topics that was covered and discussed in class would negatively affect your grade.
2) **Assignment Completion & Late Work** – No hand-written/paper/e-mail/late submissions would be accepted. All student submissions of required course work must be submitted to the class Blackboard website on or before the published due date. Late work will not be accepted and no credit will be given for any missing work or work submitted after published due dates, or after solution has been posted. Exceptions may be made in case of an illness or an emergency condition only when a verifiable documentation is submitted within reasonable timeframe. It is students' responsibility to make sure all assignments submission are successful and have backups of work submitted.
3) **Quizzes and Exams** – No makeup quizzes or exams would be given. Exceptions may be made in case of an illness or an emergency condition only when a verifiable documentation is submitted within reasonable timeframe. No electronic or computer devices such as Smartwatch, Smartphone, Tablet, laptop, or netbook (calculator is OK) can be used during quizzes and exams. Violations results in no credit for the exams, see Academic Conduct Code.

4) **Classroom Expectations** – Please do: respect your classmates by silencing your cell phone or other electronic devices before class begins, and don't use them during class; be on time, lateness always disrupts learning; participate, ask questions, and interact with your professor.

5) **Academic Conduct Code** – An important message from the Dean's Office: "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, the students are expected to:
- Understand the fundamental concepts of operating systems, including OS structures, processes/threads management, synchronization, deadlocks, memory management, file systems, disk and I/O, protection and security.
- Develop hands-on experience on UNIX/LINUX-programming.
- Be introduced to the Linux kernel source code and simple kernel-level programming.

Course Requirements
- Class participation
- Reading and study
- Assignments (Homework & Project)
- Quizzes and Exam

Additional Notes
- Reading the relevant material in the textbook is essential for gaining a thorough understanding of the topics covered in the course.
- Not all of the materials in each chapter will be covered during lecture/discussion, but the materials should be read in any case.
- Besides the book chapters, additional reading materials may be assigned for each topic. Students are responsible for ALL the materials covered including any topics not in the textbooks.
- Reading before and after class is required and essential to succeed in this course.
- Assignments not turned in, quizzes and exams missed will be recorded as grades of 0 and will significantly impact your final grade.
- Late work will not be accepted and will be graded as 0.
- It is student's responsibility for making sure that assignments have been successfully submitted on the Blackboard.

- Only ONE submission per assignment is accepted. Avoid multiple submissions on the Blackboard.

Grading Criteria

The grade that a student receives in this class will be based on class participation, assignments, project, quizzes and final exam. The grade is breakdown as shown below. All percentages are approximate and the instructor reserves the right to make necessary changes.

- 5% on class participation
- 15% on homework
- 20% on semester-long project (3 deliverables & presentation)
- 30% on Quizzes
- 30% on Final Exam

Letter grade/numerical grade conversion is shown below:

Final Average	Letter Grade
95-100	A
90-94	A-
85-89	B+
80-84	B
75-79	B-
70-74	C+
65-69	C
60-64	C-
50-59	D
< 50	F

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Class Meetings, Lectures & Assignments:
Note: This is a tentative schedule and a live document. Lectures, Readings, and Assignments subject to change, and will be announced in class as applicable within a reasonable time frame.

Date	Topic	Readings Due	Assignments Due
May 24	Introduction, Virtual Machines	Chapters 1, 16	
May 31	OS Structures, Processes	Chapters 2, 3	**Project Topic-Abstract Due (Project Deliverable 1)**
June 7	Processes, Threads	Chapters 3, 4	Homework 1 Due
June 14	CPU Scheduling, Quiz 1	Chapter 6	**Quiz 1 (Chapters 1, 2, 3, 4)**
June 21	CPU Scheduling, Process Synchronization	Chapters 6, 5	Homework 2 Due
June 28	Process Synchronization, Deadlocks	Chapters 5, 7	**Paper Annotated Bibliography/ Functional Specification Due (Project Deliverable 2)**
July 5	Main Memory, Virtual Memory	Chapters 8, 9	Homework 3 Due
July 12	Mass-Storage Structure, Quiz 2	Chapter 10	**Quiz 2 (Chapters 5, 6, 7, 8, 9)**
July 19	I/O Systems, File-System	Chapters 11-13	Homework 4 Due
July 26	Protection & Security	Chapters 14, 15	Homework 5 Due
August 2	Project Presentation		**Slides plus Final Paper/ Technical Specification Due (Project Deliverable 3)**
August 9 'Tentative'	Final Exam		**All Covered Material**