SOFE 3950U & CSCI 3020U
Operating Systems

Instructor : **Dr. Khalid A. Hafeez**,

:Department of Electrical, Computer, and Software Engineering,
Email :Blackboard email,
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Office :ENG 1023,
Office Hours :Monday: 10:00 - 11:00 am

Teaching Assistants: Jonathan Gillet
Patrick Smuk

Overview:

- The organization and structure of modern OSes
- Concurrent programming concepts.
- Internals and design issues.
- Process description and control.
- Threads,
- Concurrency: mutual exclusion and synchronization.
- Deadlocks and starvation.
- Memory management and virtual memory.
- Uniprocessor scheduling.
- Multiprocessor and real-time scheduling.
- I/O management and disk scheduling.
- File management.
- Security, performance, and protection.

Course outcomes:

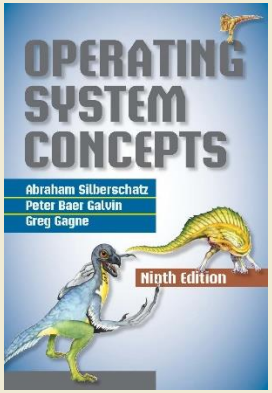
- At the end of this course the students will have sufficient knowledge to analyze different aspects of operating systems in terms of functionality, performance and robustness.

- They should also have the knowledge and expertise to design and implement complex data structures and functionality of simple tasks in an operating system.

Syllabus and Teaching Philosophy

Textbook:

- Operating System Concepts, 9th Edition.
- Publisher: Wiley.
- ISBN 978-1-118-06333-0.
- Book by Silberschatz, Galvin, and Gagne



Evaluation:

Quizzes and Assignments	10%
Tutorials and in-class participation	05%
Labs	15%
Midterm Exam	25%
Final Exam	45%

No midterm deferral, marks will be added to the final exam
Student should pass the final exam (more than 50%) to pass the course

Syllabus and Teaching Philosophy

Lectures: Mondays: 08:00 – 09:40 am, room UL 09

Fridays: 05:10 – 06:30 pm, room UL 09

Tutorials: Tuesdays: 11:10 am – 12:30 pm in J127

08:10 am – 09:30 am in J127

start date: Jan. 16, 2017

Quizzes: there will be 6-8 quizzes (we will drop the lowest quiz) doing the quizzes from outside the class room, will be considered misconduct and cheating.

In-class Participation: The attendance is NOT mandatory but you are expected to participate in the classroom discussions. Answering and asking questions will be considered as positive participation and will be rewarded.

Labs:

Section	Group	Location	Day	Time	Start Date
74025 74169	A	UA1240	Monday	6:40 pm - 9:30 pm	9/1, 23/1, 6/2, 27/3. 13/3,27/3
74026 74172	B	UA1240	Monday	6:40 pm - 9:30 pm	16/1, 30/1, 13/2, 6/3. 20/3, 3/4

Lab #	Lab
Lab 1	Introduction
Lab 2	UNIX Shell
Lab 3	Threads
Lab 4	Scheduling
Lab 5	Multithreading and Deadlocks
Lab 6	Virtual Memory Manager

Lectures Schedule

Week of	Topic	Other Info.
Jan. 09	Introduction	
Jan. 16	Operating System Structures	
Jan. 23	Processes	
Jan. 30	Threads	
Feb. 06	Process Synchronization	
Feb. 13	Process Synchronization, Midterm (Feb. 13. UA1350)	
Feb. 20	**Midterm Break**	
Feb. 27	CPU Scheduling	
Mar. 06	Deadlocks	
Mar. 13	Main and Virtual Memory	
Mar. 20	File System Interface	
Mar. 27	File System Implementation	
Apr. 03	Review	

GENERAL REQUIREMENTS

- Confirm Blackboard access to SOFE 3950U/ CSCI3020U
- All communications will be through Blackboard

Religious Accommodations: If participation in some part of this class conflicts with your observation of specific religious holidays during the semester, please contact me during the first week of class to make alternative arrangements.

Academic Integrity:

Students are expected to be familiar with UOIT's regulations on Academic Conduct (Section 5.15 of the Academic Calendar)

Accessibility:

If you are eligible, send your request to the Centre for Students with Disabilities on time.

HOW TO SUCCEED IN THIS COURSE:

1. Attend the classes regularly and participate by asking questions
2. Review the material lecture by lecture and do NOT wait until the exam time
3. If you do not understand something in the class, consult the instructor during office hours
4. Work on the assignments independently and then within a group
5. Make sure that you can independently solve the problem sets posted on the blackboard

MIDTERM EXAM

- Midterm exam will be on **Monday Feb. 13, 2017** during class time.
- Place: room UA1350.
- Allowed: one page single sided cheat sheet!