

**Date:** Tuesday, Oct 30  
11:00am to 12:15am  
**Location:** MCB 230 (usual classroom)

**Format:**

The midterm exam will consist of 3-5 questions.

It will be **closed book, closed notes, closed computer/without wireless access**. However, you are **allowed to bring one letter-sized sheet of paper with prepared notes** (you may use front and back of that sheet.)

You are responsible for the content of lectures 1 through 19 (up to including the Oct 23 lecture.) This includes, among others:

- Introduction to OS: general goals & principles of operating systems.
- Multiprogramming basics: protection, dual-mode operation, system calls and exceptions. Linking and loading.
- Threads & processes: context switching, mode switching, procedure switching, context management, threading & process APIs.
- Concurrency & Synchronization: critical section problem, race conditions, approaches for guaranteeing mutual exclusion, including locks, semaphores, monitors, spinlocks & disabling interrupts.
- Deadlock: conditions, detection & recovery.
- Scheduling: general goals & constraints, priority scheduling, FCFS, RR, SPN, MLFQS, Lottery Scheduling.
- Virtual memory basics: address translation, memory protection, page table & TLB management, demand loading, paging techniques, fault resumption

Our textbook covers this material in Chapters 1, 2, 3.1-3.5, 5, 6.1-6.8, 7, 8 and 9.

The midterm may also contain questions related to projects 0, 1, and 2.

There are sample midterms posted on the class website in the section "Documents" which you may find useful.