Lecture 1	**Course Introduction** • Introducing syllabus, policies, and projects. • An overview of basic of OS, Kernel • Early Systems without OS
Lecture 2	**Introduction** • OS booting Process • Device controller • Device drivers • Device Status Table
Lecture 3	**Interrupts** • Interrupt and its types (hardware, software, traps) • Simple Interrupt processing • Synchronous, Asynchronous and DMA • Storage device hierarchy
Lecture 4	**Systems Calls** • OS provided services • Systems calls and its parameters passing **OS Structure** • Monolithic • Layered • Mircokernal • Kernel Modules • Virtual Machines (type 1 and 2 hypervisors) • Containers (dockers)
Lecture 5	**Process Management** • Process, Process address space • PCB • Context switching • Process states (2 and 5 states models)
Lecture 6	**Operations on Processes** • Process creation (i.e. fork system call) • Wait system call • Zombie and orphan processes • exit, abort and exec system calls
Lecture 7	**Inter-Process Communications (IPC)** • Independent and cooperating processes • IPC with shared memory • IPC with Message passing (direct/indirect, blocking/non-blocking, buffering) • Sockets • Remote Procedure calls (RPC) • Pipes (ordinary vs named pipes)

Lecture 8	**CPU Scheduling** • Schedulers (short-term, long-term and medium-term) • Preemptive and non-preemptive scheduling • Scheduling Criteria (CPU utilization, throughput, turnaround time, waiting time, response time) • Scheduling Algorithms (i.e. FCFS)
Lecture 9	**CPU Scheduling-II** • Scheduling Algorithms (SJF, Priority-based, Round Robin, Multi-level queue, Multi-level Feedback queue)
Lecture 10	**Revision**
First Mid-term Exam	