Syllabus ...

4.3 Scheduling Criteria
4.4 Scheduling Algorithms:
- FCFS
- SJF (Preemptive and Non-Preemptive)
- Priority Scheduling (Preemptive and Non-Preemptive)
- Round Robin Scheduling
- Multilevel Queues
- Multilevel Feedback Queues

5. **Process Synchronization**   [Lectures 6]
5.1 Introduction
5.2 Critical Section Problem
5.3 Semaphores:
- Concept
- Implementation
- Deadlock & Starvation
- Types of Semaphores

5.4 Classical Problems of Synchronization:
- Bounded Buffer Problem
- Readers & Writers Problem
- Dining Philosophers Problem

6. **Deadlock**   [Lectures 7]
6.1 Introduction
6.2 Deadlock Characterization
6.3 Necessary Condition
6.4 Deadlock Handling Technique:
- Deadlock Prevention
- Deadlock Avoidance:
  - Safe State
  - Resource Allocation Graph Algorithm
  - Bankers Algorithm
- Deadlock Detection
- Recovery from Deadlock:
  - Process Termination
  - Resource Preemption

7. **Memory Management**   [Lectures 8]
7.1 Background:
- Basic Hardware
- Address Binding
- Logical versus Physical Address Space
- Dynamic Loading
- Dynamic Linking and Shared Libraries

7.2 Swapping
7.3 Contiguous Memory Allocation:
- Memory Mapping and Protection
- Memory Allocation
- Fragmentation

7.4 Paging:
  - Basic Method
  - Hardware Support
  - Protection
  - Shared Pages

7.5 Segmentation:
  - Basic Concept
  - Hardware

7.6 Virtual Memory Management:
  - Background
  - Demand Paging
  - Performance of Demand Paging
  - Page Replacement:
    - FIFO
    - OPT
    - LRU
    - Second Chance Page Replacement
    - MFU
    - LFU

8. **File System**   [Lectures 7]

8.1 Introduction and File concepts (File Attributes, Operations on Files)

8.2 Access Methods:
  - Sequential Access
  - Direct Access

8.3 File Structure:
  - Allocation Methods
  - Contiguous Allocation
  - Linked Allocation
  - Indexed Allocation

8.4 Free Space Management:
  - Bit Vector
  - Linked List
  - Grouping
  - Counting

9. **I/O System**   [Lectures 4]

9.1 Introduction

9.2 I/O Hardware

9.3 Application of I/O Interface

9.4 Kernel I/O Subsystem

9.5 Disk Scheduling:
  - FCFS
  - Shortest Seek Time First
  - SCAN
  - C- SCAN
  - C- Look

■ ■ ■

Contents ...

■■■