Topic List

- Processes
- Threads
- Synchronization Primitives
- Deadlock
- Scheduling
- Virtual Memory
- Caching
- File Systems

Midterm Topics List

- Processes
- Threads
- Synchronization Primitives
- Deadlock
- Look to those slides for review

Scheduling

- Policies:
  - FIFO
  - Shortest Job First (SJF)/OPT
  - Round Robin
  - Multi-Level Feedback
- What are you optimizing for?
- Queuing Theory
  - Little's Law
  - Response Time vs Utilization

Virtual Memory

- What is Address translation
- External Fragmentation
- Internal Fragmentation
- Page Table
  - Permissions
  - Physical Location
  - Multi-Level Page Tables

Caching

- Random
- FIFO
- Farthest Future/MIN
- Least Recently Used (LRU)
  - Possible?
  - Clock Algorithm
- Least Frequently Used (LFU)

File Systems

- What is a file?
  - array of data
  - meta-data
  - name?
- What is a file system?
  1. File name mapping system
  2. Collection of files on one device

Disk Access

- Seek Time - arm moving
- Rotational Latency - disk spin
- Transfer Time - reading/writing the data
- Disk Scheduling
  - FIFO
  - Shortest Seek Time First (SSTF)
  - SCAN
  - CSCAN