CIS 452 Midterm Exam Study Guide
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- Introduction, OS Structures, process concepts
  - Operating System Services
- Processes
  - States
  - Process Control Block
  - Context Switching
  - Schedulers
  - Process Creation
    - Fork
  - Interprocess communication
  - scheduling, operations, interprocess communications
- Threads
  - Benefits
  - Data parallelism
  - Task parallelism
  - Multithreading Models
    - One to One
    - Many to One
    - Many to Many
- Process synchronization
  - Critical Section Problem
  - Race Conditions
  - Preemption
  - Mutex, locks
  - Semaphores
  - Classical Synchronization problems
    - Reader/Writer
    - Producer/Consumer
    - Dining Philosophers
  - Deadlock
    - Characterization
  - Starvation
  - Resource Allocation Graph(s)
- CPU scheduling
  - Optimization Criteria
  - Algorithms
    - FCFS
    - SJF
      - Calculating burst size
      - With pre-emption and without

- Priority
- Round Robin
- Multilevel Queue
- Multilevel Feedback Queue
    - Metrics
        - Average Wait Time

Suggestions for review:
1. Review the lab assignments
2. Review the in-class assignments
3. Review the slides used for instruction during the class time.