



Midterm 2 Topics

You are expected to know:

- Virtual Memory:
 - Integrating TLB, cache, and virtual memory
 - Physically-indexed versus virtually-indexed cache
 - Cache coherency and incoherency – definition, examples
 - Snooping protocols
- I/O Devices and Storage:
 - Different ways to measure performance: throughput, response time
 - Dependability, reliability, and availability– definitions and measuring (including MTTF, MTBF, AFR, etc)
 - Disk structure
 - Disk performance costs: seek time, controller overhead, rotational delay, transfer time
 - Flash storage properties
- Communication:
 - Memory-mapped I/O versus special I/O instructions
 - Polling
 - Interrupt driven I/O: identifying interrupts, handling, masking
 - DMA – operations, performance, interaction with virtual memory and cache
- RAID schemes