Outline for October 16, 2008

1. External priority methods (continued)
   a. Fair share scheduling

2. Kernel-Level I/O Routines
   a. Device drivers and transparency
   b. How processes view devices (for example, virtual devices)

3. Issues
   a. Goals; what should a good process/device interface do?
   b. Device hardware; what does a device look like?
   c. Device interface; how are the devices connected to the computer?
   d. Device drivers; what do the kernel modules interacting with devices look like?
   e. Process interface; how do the processes access devices?

4. Goals
   a. Character code independence
   b. Device independence
   c. Efficiency
   d. Uniform treatment of devices

5. Device Hardware
   a. Disks: platters, tracks, cylinders, sectors, heads, arms; seek, rotational, and transfer latencies
   b. Drums: one head per track; use
   c. Magnetic tapes: nine-track tapes, frames, tape density, records, inter-record gaps, labels, headers, trailers; winding, transfer latencies
   d. CDs
   e. Communication lines: simplex, half-duplex, full duplex; baud; protocols; bit stuffing, character stuffing (escapes)