Outline for January 4, 2001

1. Greetings and Felicitations!
   a. Go over class information handouts
2. Operating System Functions
   a. I/O Functions: polling, interrupt-driven, DMA
   b. Process Functions: creation, deletion, synchronization, communication
   c. Memory Functions: allocation, deallocation, management
   d. Secondary Storage Functions: data motion, address translation
   e. User Interface Functions: command interpreter, job control language
   f. Desireable Features: efficiency, reliability, maintainability, smallness
3. Principles of Operating System Design
   a. Separation of Policy and Mechanism
   b. layering (THE: hardware, processor allocation and process synchronization, memory, console messages, I/O buffering, user programs, operator/console)
4. Organization of Operating System
   a. monolithic: processes are subroutines
   b. kernel: operating system calls are subroutines
   c. client-server model: kernel just passes messages
   d. virtual: give illusion all hardware is available; run regular operating systems on top
5. Types of Operating Systems
   a. Distributed operating systems (architecture-driven)
   b. Multiprocessor operating systems (architecture-driven)
   c. Real-time operating systems (application-driven)
   d. Database operating systems (application-driven)