

CSC 2204  
OPERATING SYSTEMS  
Fall 2006

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The Quiz -- Responsible4

Operating System Concepts, 7/e  
Silberschatz, Galvin, and Gagne,  
Wiley (2005)  
ISBN 0-471-69466-5

#### Chapter 1 Introduction

The usual statement I make about such a chapter, at this point in the course, is that you should have been establishing the OS background that this chapter provides as the course was going along. The material, and the context in which it is provided, should be second-nature to you now. There is nothing explicitly examinable in this chapter.

#### Chapter 2 Operating-System Structures

The statement made for Chapter 1 above applies to this chapter as well, in general. I note that there is a discussion of Mechanisms and Policies in Section 2.6.2 beginning on page 56, and the distinction is important.

#### Chapter 3 Processes

Most of the concepts early in this chapter -- process concept, process image, process state, process control block, process scheduling, context switch, the semantics of `fork()`-- are important. The specific concepts of interprocess communication, shared memory systems, shared memory for POSIX, Mach, and Windows XP, and client-server systems, while important in general, are not of great importance to us.

#### Chapter 4 Threads

The early general concepts -- motivation, benefits, threading models -- are important. The specifics of a particular threading library are not important

across the class, but the ability to express a solution using threads provided by some implementation is needed by everyone (i.e., know one of the ways to use threads). Knowing about Linux threads in Section 4.5.2 is good.

#### Chapter 5 CPU Scheduling

All the material up to, but not including Section 5.4 on Multiple Processor Scheduling, is important. Linux scheduling in Section 5.6.3 is important.

#### Chapter 6 Process Synchronization

All the material up to, but not including Section 6.8 on Synchronization Examples, is important.

#### Chapter 7 Deadlocks

The basic concepts and the 4 necessary conditions are the important things. Understand deadlock prevention. Understand deadlock avoidance in terms of safe, unsafe, and deadlocked states.

#### Chapter 8 Main Memory

Nothing.

#### Chapter 9 Virtual Memory

Nothing.

#### Chapter 10 File-System Interface

Understand file attributes, file operations, file access methods, and directory structure.

#### Chapter 11 File-System Implementation

Understand the allocation methods in Section 11.4. Understand the free-space management methods (not lectured on) in Section 11.5.

#### Chapter 12 Mass-Storage Structure

Understand the basics of disk geometry. Understand disk scheduling in Section 12.4. Understand the basics of RAID, as exemplified in the assignment.

Nothing from Chapter 13 onwards.

Modern Operating Systems, 2/e  
Tanenbaum  
Prentice-Hall (2001)  
ISBN 0-13-031358-0

#### Chapter 1 Introduction

Same comment here as for the Chapter 1 in the Silberschatz book.

#### Chapter 2 Processes and Thread

Understand the basics of processes and threads, but not the details about worker threads. Don not worry about the material in Section 2.2 from 2.2.5 onwards. Understand Section 2.3 up to Message Passing. Barriers, as mentioned in lecture, is mentioned in Section 2.3.9. Understand the classical IPC problems and Scheduling.

#### Chapter 3 Deadlocks

The basic concepts and the 4 necessary conditions are the important things. Understand deadlock prevention. Understand deadlock avoidance in terms of safe, unsafe, and deadlocked states.

#### Chapter 4 Memory Management

Nothing here.

#### Chapter 5 Input/Output

Understand the basics of disk geometry. Understand disk scheduling. Understand the basics of RAID, as exemplified in the assignment.

#### Chapter 6 File Systems

Understand file attributes, file operations, file access methods, and directory structure. Understand the allocation methods. Understand the free-space management methods (not lectured on).

Nothing from Chapter 7 onwards.