CSCI 356 Fall 2021 Study Guide

The *Preliminary* format for the test will be (I may update this page, so check back):

- 12 – 20 multiple choice questions.
- 5 – 10 short answer (may take some sentences and or code to answer adequately), possibly some matching, and fill in the blank type questions.

Areas to Focus on First:

Operating System History

- Review Slides

Shell Commands and Programming

- You should know the common commands discussed and found in your first homework assignment. Don't forget about pipelining
- You should be able to create and/or interpret shell script code

C Programming

- You should be familiar with the basics of C programming including structs
- You should be able to create and/or interpret c code

Chapter 1: Introduction
1.1 What Operating-Systems Do: background information
1.2 Computer System Organization: you should be familiar with the bootstrap program and interrupts
1.3 Operating System Architecture: you should be familiar with singleprocessor and multi-processor systems, and asymmetric and symmetric mulit-processing
1.4 Operating System Structure: multi-programming and timesharing
1.5 Operating System Operations: you should be familiar with mode-operation

Chapter 2: Operating-System Structures
2.1 Operating System Structures: must know vocabulary
2.2 User and Operating-System Interface:
2.3 System Calls:
2.4 Types of System Calls:
2.5 System Programs:
2.6 Operating-System Design and Implementation:
2.7 Operating-System Structure: the entirety of this section is very important and almost sure to generate multiple quesitons
2.8 Operating-System Debugging:
2.9 Operating-System Generation:
2.10 System Boot: you should be familiar with the bootstrap program and how a computer starts up

Chapter 3: Processes
3.1 Process Concept: you should definitely know this section. Be sure you know section 3.1.3!

3.2 Process Scheduling: you should be able to describe how the kernel performs a context switch
3.3 Operations on Processes
3.4 Inter-process Communication:
3.5 Examples of IPC Systems
3.6 Communications in Client-Server Systems

Things you definitely should know:

- Memory structure
- Operating System Services
- System Call Parameter Passing
- Operating System Design Requirements and Goals
- The Microkernel approach
- Process States
- CPU - I/O burst cycle
- All aspects of Dispatching and Scheduling
- Multiprocessing
- Critical Sections
- Interrupt Handlers and Interrupt Vector
- General components of a Process (and PCB)

Note:
• You should definitely review the quizzes we have taken for each chapter

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