

**CSCI 6303**  
**Exam 1 Review**  
**Dr. Abraham**

Bring your mid-semester class evaluation (typed –no names please!) to class. Include good points to keep and things to improve. Anything else you want to say as well. Check this site again for any updates.

**Bring two Blue books to take the exam.**

What determines how many instructions there will be in an instruction set? Addressable memory is limited by what? Explain both.

Describe the purpose of PC, IR, and MAR. Show the contents of these registers as a small program is executed. Assume you have a register called AC. I will give you a small program, you need to write the assembly code and show the contents of these registers as the program is executed.

Lab assignments might appear on the exam.

What is a RAID? What are the different levels? How do they differ?

Describe the differences between a CISC processor and a RISC processor?

Explain Amdahl's law using an example.

Differentiate between direct and 4-way associative cache/memory mapping. Give specific examples. Do problems dealing with direct mapping.

Briefly discuss the options available for updating (writing) a memory location when using cache.

What is a power supply? How does it step down voltage?

Convert a binary number to decimal and a decimal number to hexadecimal and do some elementary binary math.

Give the truth table for AND and OR gates.

How can we inspect the registers in a PC? When we use the debug program to inspect memory and registers what registers are displayed? How do we load a value into a register?

Why is different addressing techniques used? List any four and explain using diagrams.

What is an operating system? What does it do? What are two major parts of it? Describe each.

Explain how an operating system handles multiple processes at the same time. What is a process? What is a PCB?

Explain virtual memory and paging.