

CSI 250 — Computer Organization and Architecture, SPRING 2007

Instructor: Dr. Shaun D. Ramsey

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Office: Dunning Decker N102

Office Hours: M 1:30-2:30, TTh 11:30-12:20

Class meetings: Dunning Decker-N106 TR 10:00-11:15

Text: *Principles of Computer Architecture*, by Murdocca and Heuring

Overview: In this class you learn about the principles of computer architecture and organization. Computer architecture describes the structure and behavior of the computer as viewed by the programmer. This includes details such as the size of each data type. Computer organization deals with structural relationships that the programmer may not be able to access directly, but which may directly affect a programmer's tasks. Elements such as clock speed and memory design fall in this category. By utilizing what is known about computer organization, it is possible to create more efficient program for a particular computer architecture.

Topics: In this course you will learn about digital logic (boolean algebra, binary numbers, decoders, adders, etc), data representation (such as binary and floating point numbers), and computer arithmetic. We will also cover the instruction set architecture (machine language, fetch-execution, CPU, and the system bus), memory organization and usage (such as caches, RAM and TLA), Input and Output (bus communication and access) and portions of network architecture (such as LANs, WANs and error detection).

Advising: CSI 250 is required for the CS major. CSI 202 and MAT 201 are prerequisites for this course.

Grading: Your grade consists of three exams and one final exam each worth 25% of your grade.

Assignments and Programming: Homework will be given throughout the course. It is a good idea to complete the homework although it will not be collected.

Exams: The exams will be held on February 22, March 29, and April 26. The final exam will be administered during its scheduled slot during final exam week. An absence on the day of an exam will result in a grade of a 0. Except in cases of extreme emergency, exams must be taken on the day the exam is administered. Before a make-up test is scheduled, documentation of the extreme emergency must be given. Make-up exams for tests missed due to an extreme emergency will be arranged for a time that is mutually convenient for the student and Dr. Ramsey.

Attendance: Other than missed classwork, lectures and notes, I assign no penalty for absences. It is your responsibility to obtain assigned homework, announcements and class notes from your fellow students. Talk to classmates for class notes. It is important that you attend every class, as there is certainly a correlation between grades and attendance. As a matter of courtesy, students are expected to inform Dr. Ramsey of the reason for any absence.

Academic Honesty: You are always subject to the Honor Code of Washington College. You may discuss concepts with others, but work is to be done on your own (unless otherwise designated). If you are unsure if something is considered *cheating*, simply ask. As always, if you have questions, feel free to email or stop by my office.

Accommodations: If you have a special accommodation/need that has been reported to the college, please let me know discretely during the first week, so that I can work to meet your accommodation.

Suggestions: To become a good programmer and problem solver, you must work on many problems. If you need help, please see me, peers or the math center for assistance. There are many resources, so there is no excuse for not using them.