MAT 250 — Introduction to Computer Organization and Architecture, Fall 2004

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Office Hours: TTh 10:00am–11:15am, M 12:30pm–1:20pm, or by appointment
Course Web Page: http://ramsey.washcoll.edu/class/04FALL/250.html
Class meetings: TTh 8:30am–9:45am in SMTH 113
Textbook: *Principles of Computer Architecture*, by Murdocca and Heuring

Overview: In this class you will 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 the 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 programs for a particular computer architecture.

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

Advising: MAT 250 is a required course for the major in computer science. MAT 102 and MAT 201 are prerequisites for this course, however my permission is also acceptable.

Grading: There will be two exams (20% each) that contribute to your final grade. The final exam will count as 25%. Homework contributes 25% to your final grade. Late homework will be assigned a 25% penalty per day late. Thus, handing in an assignment four days late results in a 0. Lastly, class participation will count as 10%. Class participation includes participation in class and may include announced and unannounced quizzes. Continuous improvement, attendance, and punctuality (in class and in assignments) will be considered for students on the borderline of a grade. Exam dates are ***tentatively*** set for: October 5 and November 18. The final will be during finals week December 13–December 18. Exams may not be taken on a different date except in extreme circumstances.

Attendance: Attendance will be taken at the beginning of every class. On your fifth unexcused absence, you fail the course. I will likely email you if you miss a class. Notice that participation is also a part of your grade and if you do not come to class, it will affect your participation.

Academic Honesty: You are always subject to the Honor Code of this college. You may discuss concepts with others, but work is to be done on your own. If you are unsure if something is considered *cheating*, you should ask me first. If you have questions, feel free to stop by or email me.

Accommodations: If you have a special accommodation/need that has been reported to the college, please let me know the first week.