Computer Science 231

Introduction to Computer Organization

Spring 2013

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Office Hours:
Tu, W, Th 2:00 – 3:30
or by arrangement

Textbooks:
Null & Lobur, *The Essentials of Computer Organization and Architecture*, 3rd edition
Kidder, *The Soul of a New Machine*

Grades
Course grades will be based on 2 midterm exams, a final exam, homework exercises, laboratory projects, and programming exercises. All graded activities will be combined into a percentage of possible points that will be converted to a course grade on a scale that is at least as generous as the following:

95 – 100	A	80 – 82	B–	63 – 65	D+	
91 – 95	A–	78 – 80	C+	< 63	D, D–, or F	(depending in part on a subjective assessment of your work)
89 – 91	B+	67 – 78	C			
82 – 89	B	65 – 67	C–			

Midterm exams are on Wednesdays, February 13 and March 27.

Final exam is Monday, April 29, 8:30 – 11:00 a.m. (the first exam period of exam week). The final exam will not be offered at any other time – *please plan accordingly*.

Homework will be assigned regularly. Be ready to hand it in at the beginning of class on the day it is due. Late homework will not be accepted, except according to the extension policy (see the last page of this information sheet). The homework exercises are a critically important part of this course – you need to keep up with them on a timely basis.

Videos
A three-part video series about the history of personal computers, *Triumph of the Nerds*, will be viewed as an additional text for the course. The video *Pirates of Silicon Valley* is a dramatization of some of the same events and will be viewed for enrichment and enjoyment.

Laboratory projects
Early in the semester there will be several laboratory exercises involving wiring up integrated circuits ("chips") to give you some hands-on experience with the concepts we will be studying in class. Normally

these will require about 1 to 1 1/2 hours. With such a large class, we will have to work out a schedule for getting everyone a chance to do the labs. There is a possibility that later the entire class will do a group project in which we will create our own processor of some kind. More details will be given in class.

Programming
Around mid-semester there will be a team programming project: you will be asked to write the microprogram for a simulated machine language interpreter. Later in the semester there may be other short programming exercises of varying kinds.

Electronic copies
Electronic copies of many course documents and files (PowerPoint slides, handouts, homework assignments, etc.) will be placed in a public folder for this course on File Server 1. This is the **only way** that homework assignments will be distributed. You are also invited to access other documents in the folder whenever you like.

Cell phones: OFF.

Policy on homework collaboration
Working together with other people is a great way to learn the kind of material in this course. I encourage you to work together on the homework, if you find that it helps you to learn. However, homework for this course is also graded, as part of your final course grade. Each student must write up his or her own homework solutions. By handing in homework solutions to be graded, you are promising that you took part in solving the problems, and that you are not just copying someone else's work. Handing in homework to be graded when you did not participate in solving the problems is a violation of the Honor Code.

Course content This course looks at computing from an abstract point of view. That is, we ignore all of the messy details of programming syntax, memory size, data representation, etc., etc., and focus directly on the question of what a computer *is* and what it *can do*. The course is very mathematical in its approach – indeed, the subject lives right on the boundary of computer science and mathematics.

In order to allow us to focus on the central issues of this subject, I will be very explicit about the content goals of the course. See the handout on course topics.

Class participation The material in this class cannot be learned just by watching other people and taking notes; it is not a spectator sport. Your participation is expected and will be counted toward your grade.

Make-up Exams and Extensions on Assignments

Extensions on the due dates of assignments and individual re-scheduling of exams will be granted only for the following reasons:

- Serious and verifiable illness or medical emergency
- Participation in an *official* Rhodes College activity (e.g., course field trip, sports team travel)
- Religious holidays
- Major life event (such as birth, wedding, death) – your own or a close family member
- Other genuine emergency that is beyond your control

Notice that this is an extensive list. It does not, however, include situations in which the timing of an exam or assignment is simply inconvenient for you. In particular, there will be no accommodation for ordinary travel arrangements before or after college breaks.

If you wish to request an extension or re-scheduling because of a situation which can be known ahead of time, it is your responsibility to make arrangements in advance. Permission might not be given after the fact. You may be asked to make your request in writing.

In all cases, your instructor is the final judge of whether an accommodation is warranted.