CSCI 2321 (Principles of Computer Design), Spring 2004

Syllabus

1 Course description

This course is about computer organization and design, emphasizing logical design and including the role of performance, the structure of instructions, computer arithmetic, processor control, and methods of performance enhancement. Some attention will also be given to assembly programming.

The objectives of this course include, but are not limited to, the following:

- Understanding how computers are organized
- Understanding the relationship between hardware and software
- Understanding the role of performance in the design of computers
- Understanding assembly language programming

2 Basic information

Class meeting times and location

- MWF 11:30am – 12:20pm, Halsell 228

Prerequisites

- CSCI 1321

Instructor and contact information

- Dr. Berna Massingill
- Office: Halsell 201L
- Office phone: (210) 999-8138
- Web page: `http://www.cs.trinity.edu/~bmassing`
- E-mail: `bmassing@cs.trinity.edu`

- Office hours:
  - Monday/Wednesday 12:30pm – 1:30pm
  - Monday 3:30pm – 5:30pm
  - Tuesday 12:30pm – 3:30pm
  - Thursday 1pm – 4pm

In addition to these scheduled office hours, you are welcome to drop by and see if I am in my office and free to talk, or you can make an appointment by calling me or sending me e-mail. If I am not in my office during scheduled office hours, I should be somewhere in the building (perhaps in one of the labs helping another student), and there will usually be a note on my door saying where to find me.

3 Course materials

Textbook

- David A. Patterson and John L. Hennessy. *Computer Organization and Design: The Hardware/Software Interface*. Morgan Kaufmann Publishers, second edition, 1998.

Web page

Most course-related information (this syllabus, homework and reading assignments, etc.) will be made available via the World Wide Web. The course Web page is a starting point for Web-accessible course material; you can find it linked from my home page (`http://www.cs.trinity.edu/~bmassing`), directly at `http://www.cs.trinity.edu/~bmassing/CS2321_2004spring/`, or via Tiger's Lair (`http://bb.trinity.edu/`).

Other references

- Caxton C. Foster and Thea Iberall. *Computer Architecture*. Van Nostrand Reinhold, third edition, 1985.
- William Stallings. *Computer Organization and Architecture*. Prentice Hall, fourth edition, 1996.
- Andrew S. Tanenbaum. *Structured Computer Organization*. Prentice Hall, 1999.

4 Course requirements

Grading

Grades in this course will be determined by the results of two major exams (a midterm and a final), several in-class quizzes, several homework assignments, and class attendance/participation, weighted as follows.

Component	**Maximum points**
Midterm exam	100
Final exam	200
Quizzes	50
Homework	about 200
Class participation	50

Numeric grades will be calculated as a simple percentage, by dividing points earned by points possible. These numeric grades will then be converted to letter grades based on a curve, but in no case will the resulting letter grades be worse than students would receive based on the following scheme:

Numeric grade	Letter grade
90 – 100	A
80 – 89	B
70 – 79	C
60 – 69	D
0 – 59	F

Exams

Exams are comprehensive but will emphasize the most recent material. They are scheduled as follows. Please plan accordingly.

- Midterm exam: March 10 in class.
- Final exam: May 5 at 6:30pm.

Quizzes

About every other week there will be a short in-class quiz. Dates will be announced via the course Web page. They will usually cover material from recent classes and reading; the questions will be similar in format to those you are likely to see on the major exams. There will be about six quizzes over the course of the semester, and the lowest grade will be dropped.

Homework assignments

Several homework assignments will be required for successful completion of this course. Some will require programming; others will not. Detailed requirements will be provided as part of each assignment; due dates will be announced via the course Web page.

Attendance

Regular class attendance is strongly encouraged; class participation grades will be based largely on attendance.

E-mail

Course-related announcements will sometimes be made by sending e-mail to the Trinity e-mail addresses of all registered students. Students are strongly encouraged to read mail sent to their Trinity addresses frequently. An archive of such announcements will be provided via the course Web page.

Late and missed work

Exams can be made up only in cases of documented conflict with a university-sponsored activity or documented medical emergency. Quizzes cannot be made up, but the lowest quiz score will be dropped, so you can miss one quiz without penalty.

Unless otherwise stated for a particular assignment, homework will be accepted up to one class period late, *but no more*, at a penalty of 10 percent off per working day. This penalty may be waived or additional time allowed *at the instructor's discretion* in cases of illness or conflict with a university-sponsored activity.

If you have unusual circumstances (as we all sometimes do), please discuss these with the instructor as far in advance as possible.

Collaboration and academic integrity

Unless otherwise specified, all work submitted for a grade (homework assignments and exams) must represent the student's own individual effort. Discussion of homework assignments among students is encouraged, but not to the point where detailed answers are being written collectively. Answers that are identical beyond coincidence are in violation of Trinity's Academic Integrity Policy and *will result in disciplinary action, including, but not limited to, a failing grade on that assignment for all parties involved.* You are responsible for the security of your work, both electronic and hard copy.