1 Introduction

This class is CSE 30: Computer Organization and Systems Programming. The class meets on Mondays and Wednesdays from 6pm to 7:20pm at HSS 1330, with a discussion section from 7:30pm to 8:20pm on the same days.

2 Instructors and Office Hours

The instructor for this class is Bennet Yee. I just go by "Bennet". My official office hours are in AP&M 5414, Mondays and Wednesdays, 1pm to 2pm, but you should feel free to drop by at other times. If you come by outside of the official times without first making an appointment, I reserve the right to ask you to come back later if I am busy, but I will make an effort to accomodate you.

The TAs for this course are Matt Hohlfeld and Sam Hamilton. Matt's office hours are Tuesdays and Thursdays 12pm-1pm. Sam's office hours are Fridays 1pm-2pm. They will both be held in AP&M 3337A.

3 Class Contents

In this class, you will learn assembly language programming, systems programming concepts, how operating systems control the hardware and allocate resources for the user-level programs, and gain some insight on how higher level programming languages are implemented. *Some* of the material will necessarily be presented as a high level overview; you will learn more details in other classes later (e.g., Operating Systems, Compilers, etc). These include: exceptions, pipelining, data/control hazards, memory hierarchies, virtual memory, user memory management using stacks/heaps/garbage collection, speculative execution.

This class will give you a better understanding of how the various abstraction barriers are actually implemented. This understanding will enable you to

- design/implement better interfaces,
- correctly write code that uses these interfaces,
- write code that will run faster,
- understand why computers (and their software) are designed they way they are.

4 Textbook, Handouts, Class Web Pages, Usenet

The text for this course is *MIPS RISC Architecture* by Kane and Heinrich. This is more of a reference book for the material covered in lecture. You are not required to attend lecture or discussion section — no attendance will be taken — but you are responsible for **all** of the material covered, which will be *much* broader than what's in the book.

In addition to class handouts, you are required to read the class Web page at

`http://www-cse.ucsd.edu/classes/fa96/cse30/`

When possible, I will try to make only "virtual" handouts via the class web pages to avoid killing trees. You should also read the Usenet newsgroups `comp.arch`. This is an Internet-wide newsgroup: you should "lurk" on that newsgroup and not post articles, at least not for the first few months. You should **not** try to solve your homework problems by posting questions on the 'net.

Instructional computing will soon create two UCSD newsgroups:

`ucsd.cs.cse30.announce`

`ucsd.cs.cse30.discussion`

The first is for class announcements for various logistics (e.g., software, office hour changes, etc) and should be "read-only"; the class Web page will be modified to include information posted here, but it will be easier to find changes here rather than searching through the web pages. The second newsgroup is for "off-line" class discussion and Q&A — you are encouraged to post (non-homework) questions there for discussion among yourselves as well as with the instructors. I'll let you know in class when the groups get created.

5 Grading

This course will **not** be graded on a curve. If all of you learn the material, I will give everybody "A"s; conversely, if none of you learn the material, I will give everybody "F"s. Your grade will be computed from your marks in homework, midterm, and final as follows:

Homework	30%
Midterm	30%
Final	35%
Class Participation	5%

Note the class participation part. You are encouraged to ask questions during lecture / discussion and keep your brains engaged. There will be approximately 6 homework assignments. Hand-in will be done electronically by the `turnin` program. If you are unfamiliar with it, type in `help instruct` at your shell prompt. Late turnin will be permitted, but you will lose 10% of the grade for each day it is late; an assignment may be late by at most 2 days.

5.1 Team Problems

Unless *explicitly* stated, all of the work must be done alone. Some of the laboratory work will specify that you do it in a team. I'll specify team size etc when we get to that later.

5.2 Cheating

If two or more handed in assignments are determined to be copied from each other when I did not ask you to collaborate (or you inappropriately obtained outside help on an assignment), all of the assignments will be returned with a zero grade. A repeat offense will result in an F grade for the course. It is your responsibility to prevent others from copying your work. See the General Catalog section on UCSD Policy on Integrity of Scholarship.