DEPARTMENT OF ELECTRICAL ENGINEERING AND COMPUTER SCIENCE

MASSACHUSETTS INSTITUTE OF TECHNOLOGY

6.033—Computer System Engineering — Handout 1—February 1, 2000

ADMINISTRIVIA

1. On-line information and handouts

Information about 6.033 is available on-line on the Web at the URL **http://mit.edu/6.033/**. On machines with AFS (i.e., all Athena machines), a faster way to access the 6.033 Web site is through the URL file:/afs/athena.mit.edu/course/6/6.033/www/index.html.

6.033 will attempt to avoid paper and publish all handouts electronically. Handouts will be available on the Web, as well as in the 6.033 locker on Athena. On the Web, each handout will be provided in a form that can be read by any browser, as well as in PostScript. On Athena, type
“add 6.033; cd /mit/6.033/handouts”.

We expect you to check the 6.033 home page regularly, since all assignments and late-breaking 6.033 news will be disseminated through it. The current schedule for the entire term, listing in detail all the lectures, recitations, deadlines, and quizzes is at http://mit.edu/6.033/ by clicking on the Schedule link.

2. Staff

Lectures

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Recitations

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Course secretary

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3. Lectures

Lectures will be held on Monday and Wednesday from 2 to 3pm in 34-101.

The registrar's schedule accidentally omits additional lectures on Friday from 2 to 3 pm. We occasionally use the Friday hours for special events. The most notable special events are three one-hour **quizzes,** scheduled for Friday **March 3**, Friday **April 14**, and Wednesday **May 10**. Other special events are lectures by staff of the M.I.T. Writing Program, on **February 4**and **March 10**. Sometimes we discover that an interesting visitor can be cajoled into giving us a guest lecture, in which case we will schedule it on Friday. And, finally, if winter gets any worse and we encounter a week of snowed-out lectures, we may try to get back on schedule by using the Friday lecture hour. The message here is: reserve that block in your calendar, even though it isn't going to be used every week; make sure the reservation is clearly marked for the three quiz dates.

The <u>Schedule</u> link of the 6.033 Web page http://mit.edu/6.033/ has all this information and more.

4. Recitation sections

The recitation sections are currently scheduled as follows, but don't be surprised if some last-minute changes are needed. Section numbers are in parentheses.

(#1)	TR10	34-303	Horn/De Couto	(#3)	TR1	36-839	Rivest/Isla
(#11)	TR10	36-155	Morris/Chao	(#7)	TR1	34-303	Saltzer/Tse
(#13)	TR10	34-302	Rudolph/Sit	(#8)	TR1	34-302	Poletto/Borodavkina
(#2)	TR11	34-303	Horn/Sit	(#10)	TR1	36-153	Hari-Frans/Chen
(#6)	TR11	34-302	Rudolph/Borodavkina	(#4)	TR2	36-839	Rivest/Chen
(#12)	TR11	36-155	Morris/Tse	(#9)	TR2	34-303	Saltzer/Chao
(#5)	TR12	34-303	Poletto/Isla	(#14)	TR2	38-136	Hari-Frans/De Couto

In the first lecture, we will hand out a recitation signup form. Try to pick a section with an instructor new to you. However, we may ask you to attend a different section in order to balance section sizes. Note that recitations in 6.033 are deliberately smaller than average because they involve free-form discussion.

5. Textbooks and readings

There are two things you need to have in order to accomplish the reading assignments in 6.033.

1. Brooks, Frederick P. *The Mythical Man-Month*, Addison-Wesley, 1995. (ISBN 0-201-00650-2, paperback)
   These are available at the Coop and at Quantum Books.

2. *Readings for 6.033,* a packet of stuff available from the EECS instrument room for $11.
   Follow this procedure to get the packet: Pick up a coupon sheet (copies handed out at the first recitation and available from the course secretary), fill it in, and take it together with cash or check to the cashier's office, 10-180. They will give you a receipt, which you can exchange for the reading packet in room 38-501 between 10 AM and 8 PM. We may make a second packet later in the term, so keep track of the coupon you find on the first one. It entitles you to an update packet if we issue one.

Before we had much in the way of class notes written, we listed Tanenbaum's *Modern Operating Systems* (Prentice-Hall, 1992) as a required textbook, and then as we accumulated more class notes we listed it as a non-required but suggested book. The class notes are farther along now, and we started getting reports from students that they didn't get enough use out of the book to be worth the cost. So we aren't recommending it except in some special cases.

6.033 comes with notes, papers, and instructors and teaching assistants who get their kicks by showing off how much they know in answering questions on the most trivial of details. And that is what Tanenbaum's book does. Whether you would find it useful or not depends on how much street knowledge about computer systems and computer jargon you have accumulated. We will be reading a number of professional papers. Some of the authors never dreamed we would be handing their papers to undergraduates, so they didn't bother to define their terms, or remind their readers of the concepts; they just assume you know everything that has gone before. With a little bit of background and a certain amount of nerve, you can deal with this by guessing, asking questions, and diligently reading class handouts and chapters. But if you come to this course feeling somewhat clueless about computer systems in comparison with your classmates, you may find that having a copy of Tanenbaum's book on the shelf is reassuring when you encounter a string of seven concatenated, unfamiliar buzzwords in one of our readings.

6. Assignments and Grades

Grades in 6.033 will be based on the results of three quizzes, about a dozen weekly one-page written reports, about ten hands-on experiments, at least two written design projects, and your participation in recitation. There will not be a final examination. Your final grade will be weighted as follows:

Final grade = 1/3 Recitation participation (incl. assignments) + 1/3 Design projects + 1/3 Quizzes

Since an important part of 6.033 is discussion of current literature, your recitation participation will *significantly* influence your grade. Each week, you will be asked to address a question pertaining to one of the reading assignments. Your response should be a one-page written essay. Our emphasis in evaluating these essays is on essential issues, not technical details or high-level jargon. Your ability to explain clearly the significance of the paper (in the context of the question) is what matters. These assignments contribute to your grade for recitation participation.

The design projects are longer, 8-10 page papers in which you engage in a design exercise or consider a question in more depth than the weekly reading reports allow. Design projects will be handed out about two weeks before they are due. The first design project will be done individually; the second design project may be done in teams of up to three. *You must hand in both design projects to pass 6.033.*

7. The 6.033 Lab: Hacking Real Systems

6.033 offers a 6-unit elective lab (6.906) designed to provide students with hands-on experience with the concepts taught in 6.033. The lab consists of three projects: a TCP proxy, a web proxy, and a file system. All the programming will be done in C so fluency in C (or C++) is a must. The lab will be run on Athena in the UNIX environment.

If you would like to understand computer systems in detail and acquire practical knowledge in building computer systems, know C, and have time to earn another 6 credits, you should consider enrolling in the lab. If you are taking 6.033 only because of its reading and writing components, you should not enroll. You do not need to take the lab to do well in 6.033.

To sign up for the lab,mark yourself as interested on the recitation preference handout. We may have to limit enrollment in the lab because of limited teaching resources, so please wait before registering for 6.906. Note that the lab will not satisfy either the Institute or department lab requirements. More information on the lab, can be found on the web at http://mit.edu/6.033/www/lab.html. Any questions regarding the lab should be sent to the lab TAs at 6.033-lab-tas@mit.edu.

8. Collaboration

Our policy is simple, based on professional standards: On quizzes you should *not* collaborate. On all other assignments you are welcome to work with anyone else on ideas and understanding, but your writing should be your own *and* you should carefully acknowledge all contributions of ideas by others, whether from classmates or from papers you have read.

9. The Writing Requirement, Phase II

Since 6.033 is one of the few Course VI subjects that asks students to hand in assignments containing complete sentences in the English language, the M.I.T. Writing Program takes a special interest. This interest will take two forms this term:

1. We will forward a copy of your first weekly writing assignment to the Writing Program for evaluation and comment. (These comments usually come back about three weeks later.) In addition, if you ask us to, we will forward to the Writing Program any design project on which your 6.033 grade is a B or better and which contains at least ten pages clearly identified as having been written by you. (The second design project may be a team effort, in which case you may have to volunteer to be the team scribe if you want to take advantage of this option.) Assuming the evaluator in the Writing Program likes your stuff, you will receive credit for Phase II of the M.I.T. writing requirement. For more information, see the description at http://web.mit.edu/writing/writereq/

2. The staff of the Writing Program will offer up to five sections of a 6.033 writing practicum. If you are a student in course 6 and receive a B- or higher in the practicum, you will receive credit for Phase II. Check http://web.mit.edu/practicum/www/6.033/ for more information.