DEPARTMENT OF ELECTRICAL ENGINEERING AND COMPUTER SCIENCE

MASSACHUSETTS INSTITUTE OF TECHNOLOGY

6.033—Computer System Engineering Handout 1—February 3, 1998

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/[1]. On machines with AFS (i.e., all Athena machines), a much 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.

2. Staff

Lectures			
Frans Kaashoek	NE43-522	3-7149	kaashoek@mit.edu
Recitations			
John Chapin	NE43-530	3-3538	jchapin@lcs.mit.edu
David Gifford	NE43-401	3-6039	gifford@lcs.mit.edu
David Karger	NE43-321	8-6167	karger@lcs.mit.edu
Martin Rinard	NE43-620a	8-6922	rinard@lcs.mit.edu
Ron Rivest	NE43-324	3-5880	rivest@mit.edu
Jerry Saltzer	NE43-513	3-6016	Saltzer@mit.edu
Steve Ward	NE43-624	3-6036	ward@mit.edu
Teaching assistants			
Danilo Almeida	NE43-521c	3-5983	dalmeida@mit.edu
George Candea	NE43-520	3-7436	candea@mit.edu
Kevin Fu	NE43-532	3-6101	fubob@mit.edu
Patrick Kwon	N/A	N/A	pkwon@mit.edu
David Mazieres	NE43-521a	3-5261	dm@lcs.mit.edu
John Rusnak	26-348	3-2551	jrusnak@mit.edu
Costa Sapuntzakis	NE43-521c	3-5983	csapuntz@mit.edu
Course secretary			
Neena Lyall	NE43-523	3-6019	lyall@lcs.mit.edu

1. We will also discuss the Web as a topic.

3. Lectures

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

The registrar's schedule shows additional lectures on Friday from 2 to 3 pm. That isn't exactly what we have planned; we reserved the Friday hours for special events. The most notable special events are three one-hour **QUIZZES,** scheduled for Friday March 6, Friday April 17, and Wednesday May 13. Other special events are lectures by staff of the M.I.T. Writing Program, on February 6 and March 13. 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 handout "6.033 At a Glance, Spring Term, 1998" summarizes all these events 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	Gifford/Candea	(#9)	TR1	34-302	Rinard/Sapuntzakis
(#13)	TR10	36-155	Chapin/Almeida	(#14) *	TR1	33-418	Ward/Rusnak
(#7)	TR11	34-302	Chapin/Candea	(#8)	TR1	34-303	Saltzer/Mazieres
(#2)	TR11	34-303	Gifford/Almeida	(#11)	TR1	36-153	Karger/Kwon
(#12)	TR11	13-1143	Karger/Fu	(#5)	TR2	33-418	Ward/Mazieres
(#6)	TR12	34-303	Rinard/Rusnak	(#4)	TR2	36-839	Rivest/Sapuntzakis
(#3)	TR1	36-839	Rivest/Fu	(#10)	TR2	34-303	Saltzer/Kwon

Go to the section you were assigned by the registrar, or the one that fits with the rest of your schedule. We will figure out where you are, and also whether or not we need to ask you to attend a different section to get things balanced better. However, try to pick a section with an instructor you have not had before. Note that recitations in 6.033 are deliberately smaller than average, because they consist of free-form discussion.

* Section #14 in Room 33-418 is special. It involves a small number of students who will participate at a distance. Room 33-418 has been equipped with audio/visual equipment to facilitate teaching at a distance. If you would like to get involved in this experimental teaching section, please volunteer for this section.

5. Textbooks and readings

There are three 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. Last year, Quantum was cheaper.

2. Ward, Stephen, and Halstead, Robert. *Computation Structures*, McGraw-Hill, 1989.
   This is the text you used in 6.004. If you have already sold your copy to someone else, don't panic. We will be assigning just one chapter from it, and if necessary you should be able to borrow one from a friend or find it in a library to get through that assignment.

3. *Readings for 6.033,* a packet of stuff available from the EECS instrument room.

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.

We also recommend: Tanenbaum, Andrew S. *Modern Operating Systems,* Prentice-Hall, 1992. (ISBN 0-13-588187-0). 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 the book does. Whether you would find the book useful or not depends on how much street knowledge about computer systems and computer jargon you have accumulated. We will be reading quite a number of professional papers. Some of the authors never dreamed we would be handing them 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 Prof. Kaashoek's notes. 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. In past years we listed it as a required textbook, but quite a few students have reported that they didn't get enough use out of it to be worth the cost. So we leave it up to you to decide. If you aren't sure, you might try waiting a couple of weeks to see how things go. But beware that the Coop sends most of its stacks of unsold books back to the publisher fairly soon after the term begins.

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, at least two written case studies, and your participation in recitation. There will not be a final examination.

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. Your ability to explain clearly the significance of the paper (in the context of the question) is what matters.

The case studies 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. Case studies will be handed out about two weeks before they are due. The first case study will be done individually; the second case study may be done in teams.

Since an important part of 6.033 is discussion of current literature, your recitation participation will influence your grade *significantly* -- so significantly that we hesitate to try to assign weights to the individual components such as quizzes and case studies. Everything is important; your recitation instructor will assign your final grade based on her personal assessment of what you got out of the course, integrating all the methods of evaluation he can think of.

7. The 6.033 Lab: Hacking Real Systems

This year, 6.033 is again offering 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 two projects: a web server 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, just mark yourself as interested on the recitation preference handout. We may have to limit enrollment in the lab due to 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, including the lab handouts, can be found on the web at http://web.mit.edu/6.033/www/lab.html. Any questions regarding the lab should be sent to the lab TA, Costa Sapuntzakis (csapuntz@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 case study 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 case study 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.

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 out http://web.mit.edu/uaa/www/writing/practicum/6033/6033top.html for more info.