Massachusetts Institute of Technology
Department of Electrical Engineering and Computer Science

6.002 – Electronic Circuits
Fall 2002

Information

Lecturers: Prof. J. H. Lang, Room 10-176, Extension 3-4687, lang@mit.edu;
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Instructors: Prof. L. D. Braida, Room 36-791, Extension 3-2575, ldbraida@mit.edu;
Prof. J. G. Kassakian, Room 10-172, Extension 3-3448, jgk@mit.edu;
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Prof. G. J. Sussman, Room NE43-428, Extension 3-5874, gjs@mit.edu;
Dr. S. D. Umans, Room 4-205, Extension 3-7351, umans@mit.edu;
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TAs: Jeremy Braun, jtbraun@mit.edu;
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The TA offices are in the Lab, Room 38-501.

Prereqs: Both 8.02(2) and 18.03/6 are important prerequisites for taking 6.002. It is difficult to focus on the concepts introduced in 6.002 without the physical and mathematical foundations that these prerequisites provide. Therefore, if you have not taken both 8.02(2) and 18.03/6, you will not be allowed to enroll in 6.002.

Lectures: One-hour lectures will be held on Tuesdays and Thursdays at 11:00 AM in Room 10-250.

Recitations: One-hour recitations are tentatively scheduled for Wednesdays and Fridays at 9:00 AM in Room 26-210 (Kassakian & Braun), at 10:00 AM in Rooms 26-322 (Kassakian & Braun) and 36-153 (Braida & Chang), at 11:00 AM in Rooms 36-153 (Braida & Chang), 36-155 (Voldman & Sharma) and 26-204 (Umans & Pipe), at 12:00 Noon in Rooms 36-155 (Voldman & Sharma), 26-204 (Umans & Pipe) and 26-302 (Smith & Lee), at 1:00 PM in Room 26-310 (Smith & Lee), at 2:00 PM in Room 34-302 (Sussman & Helal), and at 3:00 PM in Room 34-302 (Sussman & Helel). Recitation assignments will be posted in the Lab, Room 38-501, and on the 6.002 web page at "http://web.mit.edu/6.002/www/fall02", by 5:00 PM on Thursday 9/5. You should attend your assigned recitation throughout the entire term. If you must change your recitation assignment, please inform your TA or the Head TA.

If changes to the scheduling of recitations become necessary, they will be announced in advance during lecture and recitation. These changes will also be reflected in the recitation assignments posted in the Lab, Room 38-501, and on the 6.002 web page at "http://web.mit.edu/6.002/www/fall02".

Tutorials: Tutorials will be held in the TA offices within the Lab, Room 38-501, on Mondays and Tuesdays, and perhaps Wednesdays, during those weeks in which there is no lab in progress. Tutorial hours will be assigned and posted in the Lab, Room 38-501, and on the 6.002 web page at "http://web.mit.edu/6.002/www/fall02", by 5:00 PM on Thursday 9/5. Tutorials canceled due to holidays on 9/23, 10/14 and 10/15 will be rescheduled by your TA.

Text: The course notes may be purchased at the Cashier's Office in Room 10-180, and picked up at the EECS Instrument Room Desk in the Lab, Room 38-501, between 10 AM and 8 PM.

Videos: Nine hour-long video tutorials are available for viewing in Barker Library. They cover the following topics: nodal analysis; complex numbers; transistor amplifier analysis; small-signal analysis; sinusoidal steady-state analysis; resonance; operational amplifiers; bode plots; and linear circuit dynamics.

Homework: Homework will be issued on Wednesdays in recitation and collected on the following Wednesdays in recitation. Corrected homework with solutions will be returned in tutorials the week after it is collected. You are welcome and encouraged to discuss the homework among your colleagues, but the final formulation and write up of your homework answers must be your own. Submitting homework copied from someone else is a serious breach of ethics, and will be handled by the Committee on Discipline.

Late homework will not be accepted for grading. However, total homework grades will be based on the best nine out of eleven individual homework grades. Thus, with one exception, two homework assignments may be missed without a grading penalty. The one exception is Homework #11, which is mandatory. Homework #11 will be a two-week design assignment that will also serve as the pre-lab exercises for Lab #4.

Handouts: Extra handouts from lecture and recitation can generally be found on the web at "http://web.mit.edu/6.002/www/fall02". For those handouts that can not be put on the web, extra copies may be found in the 6.002 drawer of the file cabinet in the SW corner of the Lab, Room 38-501. If you find that there are no extra copies of such a handout in the drawer, please contact a TA or the lecturer.

Labs: Labs will be conducted during the weeks of 10/7, 10/28, 11/11 and 12/2. (Because Monday 11/11 is a holiday, Lab #3 will actually begin on Friday 11/8). TAs and LAs will be available for help and lab check-off at least between 1:00 PM and 5:00 PM during those weeks in which a lab is in progress. Individual lab hours will be assigned and posted in the Lab, Room 38-501, and on the 6.002 web page at "http://web.mit.edu/6.002/www/fall02" by 5:00 PM on Thursday 9/5. Written lab work for the first three labs, which is to be completed in a lab notebook, will be due in recitation on the Friday following the week of the lab.

No written work will be due for the last lab. You are welcome and encouraged to discuss the labs among your colleagues. However, the execution and write up of your lab must be done on your own. Skipping the lab and submitting work copied from someone else is a serious breach of ethics, and will be handled by the Committee on Discipline.

Failure to complete the labs in this subject will result in a grade of F.

Lab Kits: Lab kits may be purchased at the Cashier's Office in Room 10-180, and picked up at the EECS Instrument Desk in the Lab, Room 38-501, between 10 AM and 8 PM. To pick up a lab kit, you must sign and hand in the EECS Safety Sheet attached to the Laboratory Information handout.

Lab Books: You must obtain a thin square-ruled hard-cover notebook for recording measurements, observations and graphs of data taken during the in-lab exercises. Written pre-lab and post-lab exercises are also to be completed in your lab notebook. Your lab notebook must be turned in for grading during recitation on the Friday following the lab week; it will be returned before the next lab.

Quizzes: One-hour closed-book quizzes will be given in the evening from 7:30 PM to 9:30 PM in Walker Memorial and Room 4-270 on Thursday 9/26, Thursday 10/24, and Thursday 11/21. Recitations on the following Fridays are cancelled. Obviously, the quizzes must be worked on your own, and any infractions will be handled by the Committee on the Discipline.

Final Exam: A three-hour final exam will be given during the end-of-term exam week. Its timing and room assignment will be announced later. You may bring one two-sided sheet of notes to the exam. Obviously, the final exam must be worked on your own, and any infractions will be handled by the Committee on Discipline.

Grading: Initial grading will be based approximately on the following assignment weighting: homework 15%, quizzes 15% each, and final exam 40%. This will be followed by considerable discussion among the entire teaching staff to factor in your performance on the labs and your participation in class and tutorials. This discussion can affect your letter grade, particularly if your initial grade is on a letter-grade boundary.

This subject has been designed so that lectures, recitations, tutorials, homework and labs are integral and essential parts of the learning process. Although there is no specific reward for participation, there is a clearly defined penalty for not participating. Students who consistently miss recitations, tutorials, homework and labs will not be included in the grading discussions.

Failure to complete the labs in this subject will result in a grade of F.