UNIVERSITY OF CALIFORNIA
College of Engineering
Department of Electrical Engineering and Computer Sciences

**EECS 40: INTRODUCTION TO MICROELECTRONIC CIRCUITS**
http://www-inst.eecs.berkeley.edu/~ee40

Fall 2003                                                                                           Handout #1
Prof. King

<u>**Course Information Sheet**</u>

**Staff:**       Professor:              Tsu-Jae King (tking@eecs.berkeley.edu)
               Discussion TA's:        Farhana Sheikh (farhana@eecs.berkeley.edu)
                                       Stephen Stafford (sjs@eecs.berkeley.edu)
               Laboratory TA's:        Matulya Bansal (matulya@eecs.berkeley.edu)
                                       Dennis Chang (dhchang@eecs.berkeley.edu)
                                       Chunlong Guo (along@bwrc.eecs.berkeley.edu)
                                       David Nguyen (nguyendt@eecs.berkeley.edu)

<u>Note</u>: Be judicious in sending e-mail to Prof. King or the TA's. It is preferred that students attend discussion sections and office hours. If you cannot attend the scheduled office hours, use e-mail to make an appointment. The EECS 40 newsgroup (ucb.class.ee40) is also a good avenue of communication.

**Course Objective and Content:**
To teach the fundamentals of circuit analysis and microelectronic devices and technology, in the context of digital integrated circuits. Upon completion of this course, the student will understand how digital integrated circuits work, the relationship between a circuit and its physical layout, and the sources of circuit-performance limitations. The topics covered in this course are organized into three major sections: (1) electric circuits; (2) active devices and circuits; and (3) digital integrated circuits.

**Prerequisites:** Math 1B and Physics 7B or equivalent

**Textbook:** *Electric Circuits* (Sixth Edition) by J. W. Nilsson and S. A. Riedel

**Course Reader:** The EECS 40 course reader contains supplementary reading material on semiconductor devices and technology, amplifier circuits, and digital integrated circuits. It will be available for purchase at Copy Central (2483 Hearst Avenue) later in the semester.

**Lectures and Discussion Sections:** The topics of the course will be fully covered in the lectures, but the time will be inadequate for a full range of examples to illustrate the applications of the theory to be covered. Examples will be the main focus of the discussion sections. You may attend any and all of the discussion sections, but regular attendance at one discussion section will assure that you have seen examples of all the problem types you can expect on the homework assignments and exams. **Discussion sections will begin on the week of 9/1/03.**

**Homework:**
Homework will be assigned each Friday, and will be due one week afterward before class. Late homework will not be accepted, because solutions will be handed out in class on the due date.

Students are encouraged to discuss homework problems with other students in the class, the nteaching assistants, and/or the instructor. However, **the work which you submit to be graded must be your own**.

**Exams:**
The midterm exams will be given on **Monday 9/29** and **Monday 11/3**.
The final exam will be given on **Wednesday, 12/10 from 12:30-3:30 PM**.

**Laboratory:**
This course includes a laboratory. Visit the web page at http://inst.eecs.berkeley.edu/~ee40/labs/ for more details. **Lab sections will begin on the week of 9/1/03.** The laboratory teaches basic electrical engineering measurement skills and contains exercises related to the circuit analysis mnaterial covered in the lectures. **You must successfully complete each laboratory session in order to receive a passing grade in the course.**

**Grading:**
The numerical score on which the course grade will be based is derived as follows:
        Homework: 10%     Midterm Exams: 20% each
        Laboratory: 10%     Final Exam: 40%

Letter grades will be assigned based <u>approximately</u> on the following scale:
        98-100: A+    88-98: A    85-88: A-
        83-85: B+    73-83: B    70-73: B-
        68-70: C+    58-68: C    55-58: C-
        40-55: D     <40:   F