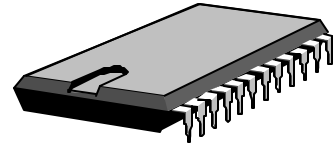


# Digital Electronics

(Csci 230)

## Spring 2008



**What am I doing here?** At the end of this course, you will be able to use standard digital components to solve practical problems. The course focus is on the laboratory experience, and you will spend most of your time doing “hands-on” work with the actual equipment. Lecture topics will include digital and analog circuits, numbering systems, Boolean logic and Boolean algebra, flip-flops and latches, and digital counters. The course has no prerequisites, and no prior experience with circuits is required.

**What do I have to buy?** You have to buy the **textbook**, *Digital Systems: Principles and Applications*, 10<sup>th</sup> edition, by Tocci, Widmer, & Moss. We will also use freeware called “Digital Works” throughout the course, which you can download from the course web site. Rather than buying a lab manual, weekly lab information can also be found on the course web site. All necessary equipment will be furnished by the physics department as needed. This equipment may never be taken out of the lab. If you want to work on your projects outside of Bailey 119, you are free to purchase your own equipment. Additionally, we will build some circuits that include a programmable chip called a BASIC Stamp, which you can purchase from [parallax.com](http://parallax.com) if you desire.

**How will I be graded?** You receive only one grade, combining elements from both the lecture and the lab. Your grade will be determined by:

Homework and Quizzes	15%
Lab Exercises	15%
Lab Projects	30%
Exams (3 exams, including the final)	40%
Total:	100%

**Where is the lab?** Lab meets for two hours every Tuesday afternoon in Bailey 118. This room is used by other courses, so you need to clean up your stuff each week before you leave.

**What are my responsibilities?** You must attend *all* laboratories and exams. You must submit all projects and homework on time. Homework must follow the guidelines on the back of this sheet. Sloppy assignments and lab work will receive lower grades. In the real world, it is not enough to simply “get it right”, or to “get it to work” – the customer (in this case, Dr. Pogo) must be able to understand your work.

If you come to lab prepared, the assigned lab exercises can be accomplished during the scheduled laboratory period. You may not leave lab early, unless your lab exercise has been graded. If you need more time, you will have to do the work outside of class time. Each lab assignment must be completed and graded *before the beginning* of the next lab. *Never* leave lab without making sure that your instructor has given you credit for your work.

**When are the exams?** The three exams are tentatively scheduled for:

<i>Exam #1</i>	Thursday, February 21, 2008	12:45am – 1:35pm
<i>Exam #2</i>	Thursday, April 3, 2008	12:45am – 1:35pm
<i>Final Exam:</i>	Thursday, May 8, 2008	12:00pm – 3:00pm

## Homework Rules

The following rules exist for my convenience in grading, and are non-negotiable. Violation of these rules will negatively affect your course grade.

- 1) Use  $8\frac{1}{2} \times 11$  inch paper. Do not use any spiral ring paper. **Use only one side of each sheet.**
- 2) Put your name on the top of every page. Put the assignment number on the top of the first page (e.g., “Digital, Assignment #3, etc.”). Clearly indicate the problem number that you are working on (e.g., problem 3-17).
- 3) **Staple** all your sheets together. No substitutions are permitted.
- 4) Be neat. Use a pencil. Students in this class who use pens historically get lower homework credit, because assignments become illegible or confusing as mistakes get blotted out. Similarly, students who use a word processor historically get *much* lower credit, because they usually omit intermediate steps and/or diagrams.
- 5) **Use words** and/or pictures when needed to clarify your method of solution.
- 6) **Along with “answers”, you must provide an indication of what it is an answer to.** Isolated answers are meaningless. For example, if the assignment is to convert  $37_{10}$  to base 2, then simply writing “ $100101_2$ ” is inadequate. *At a minimum*, you need to write “ $37_{10}=100101_2$ ”.
- 7) **Work must progress linearly down the page.** Solutions should not be horizontally adjacent, regardless of whether *you* think it is more convenient. I expect you to recopy your solutions if you cannot meet this requirement in your first draft.
- 8) As in the real world, your intent on any assignment should be to communicate the problem *and* solution to me such that I can focus on the work, with minimal attention to the presentation.