Introduction to Electrical and Computer Engineering (EE 302)

Course:	EE 302 Meets 7	2, Unique #14210 TTH 11-12:30 PM in ENS 637	
Prerequisites:	Credit or registration in M 408C		
Instructor:	Archie Holmes, Jr. Campus Office: ENS 311; Phone: 471-6903 PRC Office: MER 1.606I; Phone: 232-2735 Email: <u>holmes@mail.utexas.edu</u>		
<u>Text:</u>	(1)	Handout EE302 purchased at Paradigm, 407 W. 24th Street.	
	(2)	Foundations of Electric Circuits by J.R. Cogdell, Prentice-Hall, 1999.	

Course Description

The purpose of this course is to provide an introduction to electrical and computer engineering early in your time at the University of Texas at Austin. During the semester you will develop a better understanding of the various fields within electrical and computer engineering, the different roles an ECE graduate may play in the work force, and an appreciation and enthusiasm for the courses you will have the opportunity to take as sophomores, juniors and seniors. This course will also help you develop the skills necessary for your future success as engineers: the ability to assimilate new information, apply that information to problems, and draw connections between the various bodies of knowledge. This course is designed to assist you in developing these important skills. It is my goal to help you see the importance and relevance of your basic science (physics and chemistry), mathematics, and liberal arts (history, government, and English) courses to your future as a practicing engineer.

The subject matter in this course is broken up into two major components. The first is the *digital circuits* component. In this section of the course you will learn:

- Boolean Algebra and its related mathematical functions
- Various Logic Operations and the circuit representations
- Karnaugh Maps for Logic Minimization
- The Design of various complex Binary Functions

The second major component of this course is the *analog circuits* components. In this section of the course you will learn:

- Physics Representation of Analog Circuit Quantities
- Definitions of various analog circuit elements such as resistors
- Kirchoff's Current and Voltage Laws
- DC Circuit Analysis
- Dynamic Circuit Analysis

Throughout the course you will have weekly lab assignments on a variety of topics. These laboratory assignments are an integral component of EE302. The laboratory problems have been designed to encourage you to take advantage of the computer application programs and tools available in the laboratory. Although this is not a programming course, you will develop both expertise and confidence in using computers to solve technical problems.

Requirements and Grading

The points for this course will be distributed as follows:

Homework:	20%
Labs:	15%
Midterm Exams (3):	15% each
Final Exam:	20%

You will be able to drop your lowest midterm exam score and replace it with the score on the final if this is to your advantage.

Preparing for Class

In order to obtain the greatest benefit, it is in your best interest to complete the reading assignments for each lecture prior to attending classes. In addition, you are responsible for items in the reading which may not been emphasized in lecture.

Homework

Homework is a means by which you learn to apply the concepts discussed in class to enhance your understanding as well as obtain practice in solving engineering-type problems. To facilitate the learning process, I <u>encourage</u> you to discuss the general methods of working out the problems assigned with each other. However, there is a fine line between <u>comparing</u> techniques and <u>copying</u> techniques. **If you do not understand this distinction, please ask me**. If you do discuss the general methods of solving a particular problem with another classmate, I want you to acknowledge that person at the beginning of your solution **explicitly** (i.e., by name).

Homework will be due weekly (except during exam weeks) at the beginning of class on the indicated due date. No late homework will be accepted under any circumstances. You will be graded on the process you used to solve the problems assigned as well as the answer you get in the end. Therefore, that process should be clearly presented. *One good way to do this is to use graphs and diagrams along with a word description of the procedure you chose*. In addition, please follow the following guidelines in the presentation of your homework:

- 1) Number the pages with your name on each one.
- 2) On the first page, place EE 302, the date, and homework set #. Staple all homework turned in.
- 3) Make sure that you use correct units in your answers. Unit-less answers are wrong!!
- 4) Be neat!! DO NOT turn in your scratch work as the final product!!

Office Hours and Obtaining Help

Scheduled office hours will be from 10 to 11:30 AM and 1 to 3:30 PM on Wednesdays. In general, I will be in my office (ENS 311) before class. You can always stop by if I am there although I may be busy and cannot meet with you then. I request that you **not** stop by the **hour before** class since I will be reviewing my notes for that day's lecture. If you cannot make these times, your best bet is to contact me via email and make an appointment if necessary. On days on which class does not meet, you can try and reach me at my office at the Pickle Research Center. However, I *strongly recommend* that you contact me *first* before making the trip out there to ensure I am available to help you.

The University of Texas at Austin provides upon request appropriate academic adjustments for qualified students with disabilities. For more information, contact the Office of the Dean of Students at 471-6259, 471-4241 TTD or the College of Engineering Director of Students with Disabilities at 471-4382.

Class Information via the Internet

I will keep information such as the syllabus, lecture schedule, and homework assignments on my own WWW page which has a URL of http://www.ece.utexas.edu/~archie/. There is an official WWW page this for all sections of course which can be found at the following URL: http://www.ece.utexas.edu/courses/spring_99/ee302/. At certain times, the information at this official page and my own page may differ. IN ALL CASES, my WWW page supercedes the information at the course's official site. When you notice such discrepancies please let me know so that they can be corrected. One piece of information that you will find at the official site AND NOT on my WWW page is laboratory assignments and lab due dates.

From time to time, I will contact the class about clarifications on a homework problem, a change in the homework due date, hints on a solution to a homework problem, a change in my office hours, etc. All of these announcements will be made at the next class meeting time. If you want a more rapid notification of these and other issues, please send email to holmes@mail.utexas.edu with a subject line of "Add to Sp99 EE 302 List" and you will be placed on the list.

Academic Dishonestly

Cheating, in any form, <u>will not</u> be tolerated. Cheating is any act or process by which you claim someone else's work as your own. This includes, but is not limited to, copying other students' homework, copying other students' exams, and obtaining copies of exams before they are given. The fact that you are in this class as engineering students is testament to your abilities. Don't jeopardize your careers by doing something like this. Any student caught cheating will be dealt with in as severe a manner as possible!!

Drop Policy

The fourth day of University classes is the last day of the office add/drop period. After this official period, all course changes must be initiated with the student's academic dean and must have the approval of a departmental advisor and the dean's representative. Typically drops are not approved unless students can demonstrate "good cause", i.e. health or personal problems that did not exist at the end of the official add and drop period.