

Introduction to EE351 Notes

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This set of notes is intended to supplement the text book – not to replace the text book. The student should read and re-read both these notes and the text in order to gain full understanding of the material. The text book contains much more explanation, figures, and examples than are shown here.

Homework problem sets are provided throughout. These are very typical of problems you will see on tests. These problems are for your practice only. I will not take them up.

Electronics has the potential to be a very difficult subject. Some key factors in the difficulty include:

- Considerable new material to learn
- Inexact mathematics are used to solve problems
- Wide variety of circuits each with specialized analysis and design methods
- A lot of thinking is required to solve problems and to do design
- Textbooks are often poor at practical explanation

As a practicing designer of analog electronic circuits and having taught electronics courses for over ten years, your instructor has developed a lot of insight into the above problems. Electronics does not have to be difficult. Many people have found the concept of controlling the flow of electrons to be fun. The teaching method and these notes have been carefully designed to give the student a good grasp of the subject and to minimize the usual frustration of being overwhelmed with equations and methods.

Education is not entertainment or “edutainment.” Education is not something the student receives for free. Education is earned by the student. All the instructor can do is point the way. It is up to the student to proceed. Education does not end with the final class. In reality, the material presented in all the curriculum represents just a small fraction of what an engineer must know and understand to practice the craft. The primary purpose of schooling is to expose the student to major concepts that must be mastered and to show how the student can continue the learning process after graduation. The onset of true knowledge is when one has learned enough to comprehend the vastness of one’s ignorance. Prior to that point, one has the *luxury of ignorance* and can make stupid decisions without worry.