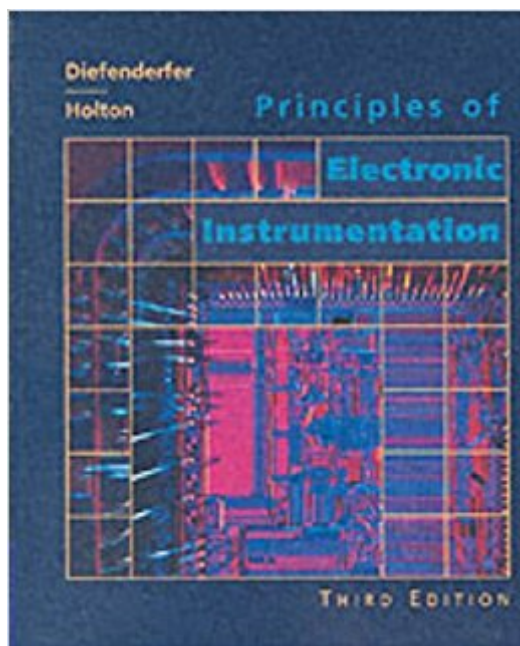


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# Principles Of Electronic Instrumentation



## Synopsis

This student-oriented text familiarizes undergraduates with the electronics involved in scientific instrumentation and control systems for use in research and end products. Suitable for the one- or two-semester courses, the text emphasizes electronics applications, rather than the physics or engineering of a device. This makes the material suitable for students who need a fundamental knowledge of electronics for the laboratory or workplace. Manufacturers' data sheets for nearly every common component are gathered in a convenient appendix, making learning and applications much easier and providing students with a valuable reference tool.

## Book Information

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## Customer Reviews

The way in which some of the sections are presented is much more complicated than they have to be in this book. It also has a tendency to give you problems that it hasn't taught in the section, expecting you to understand the concept from the limited information in the question. The only thing I really like about this book is that all the answers are in the back, not just the even or the odd.

My impression of this text is hard to describe. I'll admit that circuits and electronics is not my best subject, and I might even go so far as to say it's the weakest part of my education. This being the case, I feel it would be overly bold of me to say outright that this book seems as though it's written for someone who already is familiar with the material. And there's always the chance that this book was never intended to be used as a textbook for a first course in circuits and electronics. All of that

being said, if I'm to assume that the book is indeed meant as an introductory text, then I must say that it does not fill that role well. The whole time I was reading it I couldn't shake the impression that in rereading what he'd written, the author was checking that it made sense to him, and not whether it would make sense to a student who is only just learning the material. The material is treated in a very cursory fashion, and clarification is rarely provided for hard-to-interpret passages and diagrams. In short, would not recommend as a first textbook on circuits and electronics.

This is a horrid book for beginners. This book is more of a reference for those who already know what they are doing. There are almost no examples and there are no solutions or hints available. Here is an example of my problem with this book. Chapter 5 has literally five sentences on voltage multipliers. I counted. From this, it expects you to know how to design your own.

My professor uses this book for our homework, so it's great to have the worked examples. It also really helps with the labs.

Each chapter on has a couple of examples with minimal calculations, diagrams are unexplained and what topics that are explained are without diagrams. There are no solutions to any problems and typos are everywhere, including formulas. They can't even get the formula for equivalent capacitance of capacitors in series correct.

I'm not sure why there are so many poor reviews of this book. I used the 2nd edition years ago and liked it - this 3rd edition continues to be very good. Its approach is simple, clear & direct. The math is mostly algebra & trigonometry based with a bit of calculus thrown in here and there. This makes it very approachable especially if you don't have much experience with electronics. It's much clearer than Brophy ever was and more detailed than Faissler's book (Introduction to Modern Electronics). I find many university level intro electronics books don't give enough motivation i.e. how you actually use the stuff. Electronics is, after all, an intensely PRACTICAL subject. This book throughout shows you where and how it relates to scientific applications. Chapter 7 on transducers and chapter 15 on noise are good intros to these areas in this regard. dislikes: 30% (170/577 pages) of book is devoted to datasheets. Why I don't know. In every intro electronics course I've seen datasheets are rarely used. And just how likely is it that you'll need the ones in this book? - usually you'll need sheets for some oddball component in the lab portion of a course. These pages are a waste and should have been devoted to something else. It would've been nice to have end-of-chapter references to more

advanced works. Glossary would have been nice,too.-----if you want a more rigorous intro book use "Principles of Electronics: Analog and Digital" by Lloyd R. Fortney.If you want more info on transducers, practical building and noise reduction techniques look at 1) "Electronics and Instrumentation for Scientists" by Malmstadt/Enke/Crouch, 2) "Measurement and Instrumentation Principles" 3rd Edition by Alan S. Morris, 3) "Signal Recovery from Noise in Electronic Instrumentation" by T.H. Wilmshurst, 4) "Electronic Instrument Handbook" by Clyde F. Coombs and 5) "Building Scientific Apparatus" by Moore/Davis/Coplan

I used this book in my undergraduate career as a physics and math major. I took Electronics Instrumentation as an elective because I genuinely wanted to learn the material, but I was sorely disappointed in the text. Besides being riddled with typos and errors, I found that the book was of no use as far as giving solutions (or even answers!) to any of the problems at the ends of the chapters. Additionally, I used the lab manual that accompanies the text, and it was equally error-ridden and unsupportive. It was as though no one ever proofed the texts prior to publication. Overall I think that with some editing, added solutions, and attention to student feedback this book could be a good resource as it covers a broad range of topics, but as it stands it is lacking.

The book seems poorly edited, the presentation of the basic material is too short (a large portion of this book is data sheets), much of the material in the exercises at the ends of the chapters is not discussed in the text, and there are no solutions provided. On the other hand, the book does some good in its short and to-the-point explanations of some basic to intermediate ideas in modern electronics, and it is up-to-date. I would not recommend this book for self study, but it should work fairly well for an introductory course at the undergraduate level- as long as the instructor covers the material left out of the book.

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