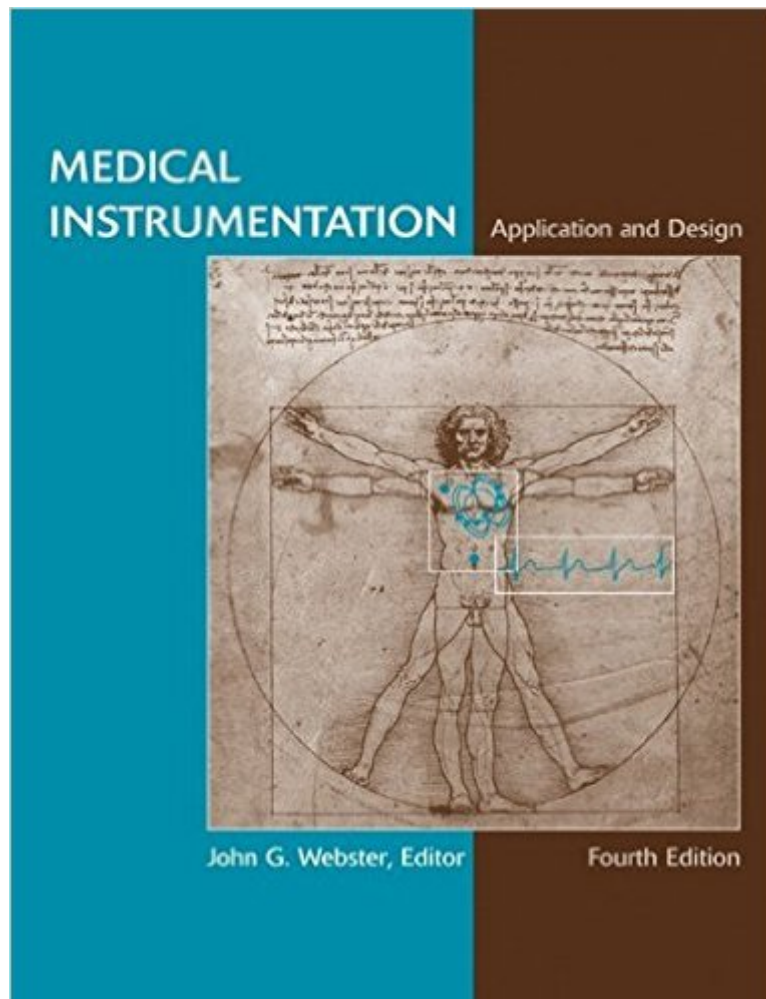


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# Medical Instrumentation: Application And Design



## Synopsis

This book provides biomedical engineers with the premiere reference on medical instrumentation as well as a comprehensive overview of the basic concepts. The revised edition features new material on infant apnea monitors, impedance pneumography, the design of cardiac pacemakers, and disposable defibrillator electrodes and their standards. Each chapter includes new problems and updated reference material that cover the latest medical technologies. The chapters have also been revised with new material in medical imaging, providing biomedical engineers with the most current techniques in the field.

## Book Information

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## Customer Reviews

If you start from scratch and you want to learn designing medical instrumentation, this book will leave you wanting for much more, especially if you wish to design the electronics too. On the whole, this book can be considered a collection of monographies of dishomogeneous complexity and detail level. For instance, the section on electronics (a measly thirty pages or so) is desperately basic and useless to conjure up any serious application. If you can design a half-decent biopotential amplifier, you don't need to read it, and if you are a medical practitioner wanting to understand more about the innards of your equipment you will find it too technical, because it looks like a copy/paste from an electronics student manual. So why bother inserting it in the first place? The remaining sections actually do better, are more or less informative and will give you a fairly good overview of the toys of the trade. The section on biopotential and electrodes I found useful and interesting, but on the whole

this book is very far from being a standalone solution, or even a reference text. Some parts will never be of interest for you, whatever your field is, and other ones require a lot of further reading. I don't quite understand whom was it written for: it is too technical for the layman, too uneven and scattered for the student and too generic for the specialist. And the price doesn't help.

Most of the book is filled with descriptions of instruments. Sometimes name and purpose is all that is given, but most often it is purpose and general theory. Some sections have good, in-depth, descriptions of the math and physics, but it is usually lacking. A handful of sections (luckily not many) were painfully outdated. I would recommend this book as a reference, or maybe to someone in sales who wants at least a basic understanding of how all the products work.

It talks about a lot of things, but issues are about one paragraph; thus, it's not very good for understanding the equipment in depth. You should get to know general instrumentation and engineering beforehand. This might be something that prompts interest, but it doesn't quite help you develop anything, and you will definitely need a refresher of undergraduate engineering.

This book is a graduate level book that is very in dept. The subject is broad so they only spend a little in each section. So much so that my prof. has his own "casebook" to help us learn practical biomedical instrumentation techniques.

This book is more of a reference book, not a textbook! Although it contains some vital information it is a very poor textbook, although the cover is nice and attractive. Don't be fooled!

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