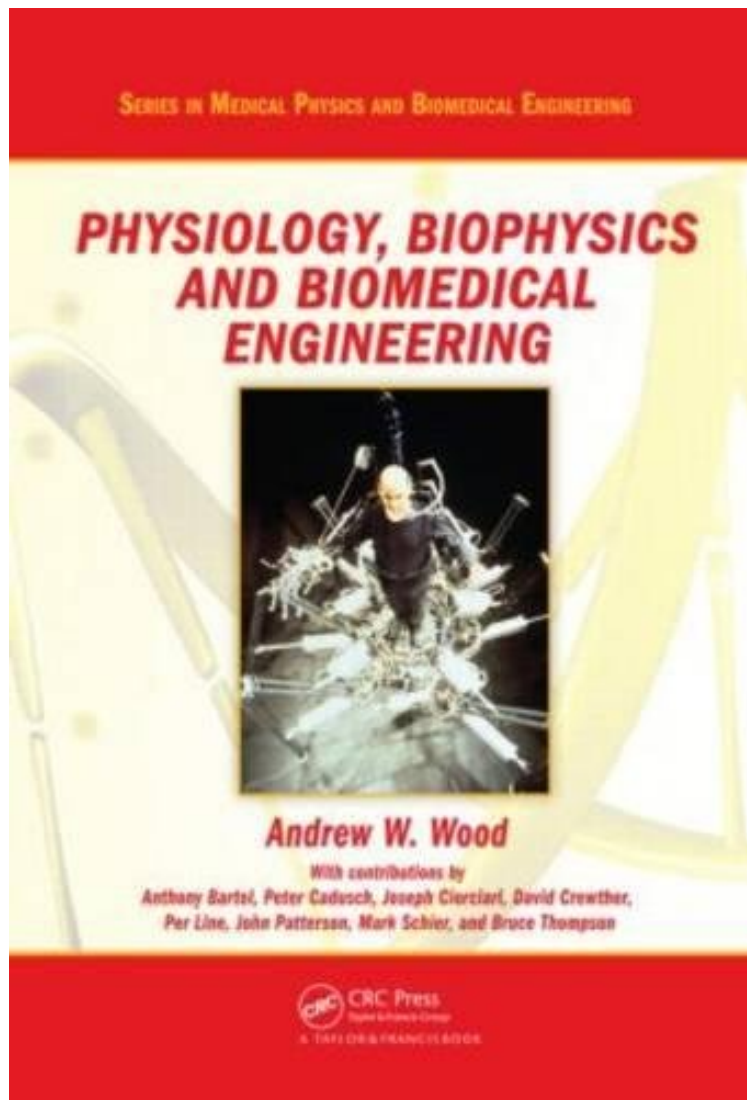


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CRichThis book has no clear audience, and the title is anything but creative. While it does have nice mathematical coverage of many important topics in medicine, the author does not derive the equations, nor does he spend much time explaining where they came from. I spent more time on Wikipedia trying to understand how he came up with his equations than I did actually reading the book.0 of 0 people found the following review helpful. Riddled with errors - do NOT recommendBy CustomerI never write reviews, but this textbook is so terrible that I feel I must present my concerns to anyone who may make the mistake of purchasing it.This claims to be a textbook with clear descriptions on biophysics. The three main points of my complaint are that the examples are not pertinent to the text, countless important specific details are omitted and, most glaringly, there are an egregious amount of mathematical and typographical errors.I speak on behalf of my entire class. We have used this textbook throughout this semester at NYU. The shocking amount of mistakes in this book have prompted us to make a sincere request to our professor that it be removed from the required reading list.

Physiology, Biophysics and Biomedical Engineering provides a multidisciplinary understanding of biological phenomena and the instrumentation for monitoring these phenomena. It covers the physical phenomena of electricity, pressure, and flow along with the adaptation of the physics of the phenomena to the special conditions and constraints of biological systems. While the text focuses on human biological systems, some of the principles also apply to plants, bacteria, and other animals. The first section of the book presents a general introduction to physiological systems and describes specialized methods used to record electrical events from biological tissue. The next part examines molecules involved in cell transport and signaling as well as the proteins relevant in cells ability to contract and generate tension. The text goes on to cover the properties of the heart, blood, and circulation and the monitoring of cardiac and circulatory function. It then discusses the importance of the interrelationship of pressures and flows in organ systems, such as the lungs and kidneys, and details the organization and function of the nervous system. After focusing on the systems used to monitor signals, the book explores modeling, biomechanics, and emerging technologies, including the progressive miniaturization of sensors and actuators in biomedical engineering. Developed from the authors courses in medical biophysics and biomedical instrumentation, this book shows how biophysics and biomedical engineering have advanced modern medicine. It brings together the physical principles underlying human physiological processes and the physical methods used to monitor these processes. Requiring only basic mathematical knowledge, the text supplements mathematical formulae with qualitative explanations and illustrations to encourage an intuitive grasp on the processes discussed.

"The book is strongly recommended to statisticians who wish to work in this relatively new, still emerging field of engineering, which will have to draw on both biology and statistics in the future."Jayanta K. Ghosh, International Statistical (2013), 81 "The inclusion of sample problems with solutions and well balanced illustrations when appropriate make this book one of the most highly recommended for those interested in understanding the underlying physical phenomena of biomedical research. a valuable resource for medical professionals and students involved in physical medicine practice, medical device development, diagnostic design, and medical physics, particularly those interested in applied physics and engineering to medicine."Paul Gueye, PhD, Hampton University, Virginia, USAAbout the AuthorAndrew W. Wood is a professor in the Brain and Psychological Sciences Research Center at Swinburne University of Technology. Dr. Wood was recently a member of the radiation health committee of the Australian Radiation Protection and Nuclear Safety Agency and the secretary and registrar of the Australian Radiation Protection Accreditation Board. His research interests include the health effects associated with nonionizing radiation, cellular neuroscience, fluorescence microscopy, and mathematical modeling.