An Introduction to Biomaterials, Second Edition (Biomedical Engineering)

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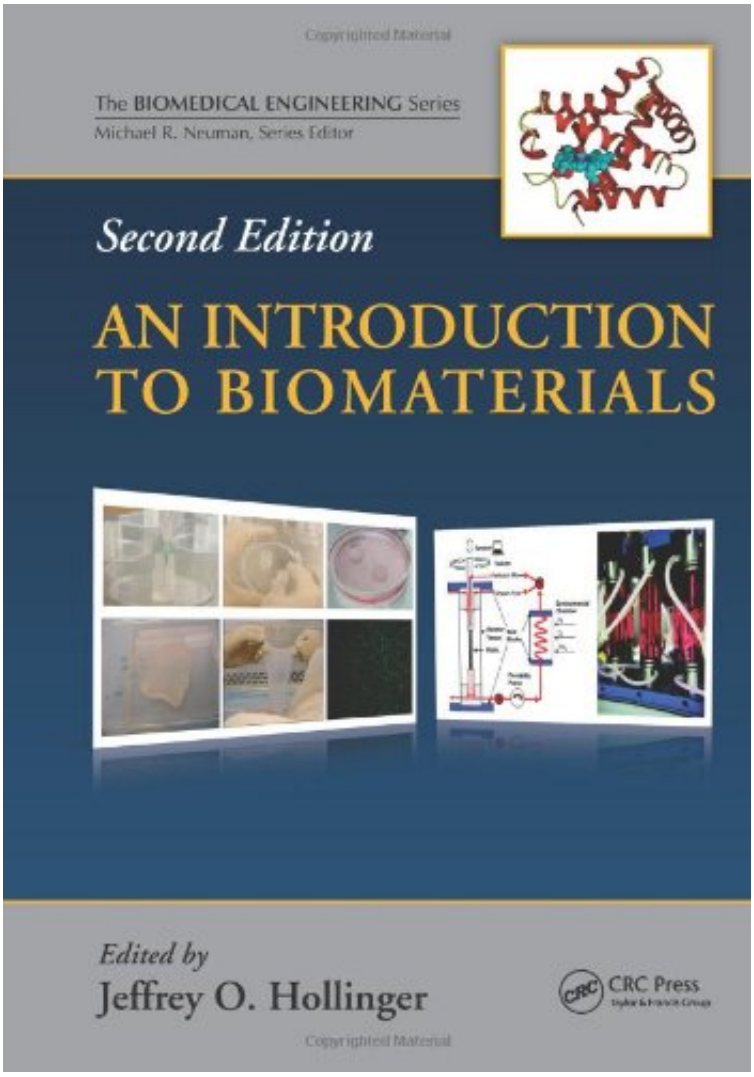

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From CRC Press : An Introduction to Biomaterials, Second Edition (Biomedical Engineering) before purchasing it in order to gage whether or not it would be worth my time, and all praised An Introduction to Biomaterials, Second Edition (Biomedical Engineering):

A practical road map to the key families of biomaterials and their potential applications in clinical therapeutics,

Introduction to Biomaterials, Second Edition follows the entire path of development from theory to lab to practical application. It highlights new biocompatibility issues, metrics, and statistics as well as new legislation for intellectual property. Divided into four sections (Biology, Biomechanics, Biomaterials Interactions; Biomaterials Testing, Statistics, Regulatory Considerations, Intellectual Property; Biomaterials Compositions; and Biomaterials Applications), this dramatically revised edition includes both new and revised chapters on cells, tissues, and signaling molecules in wound healing cascades, as well as two revised chapters on standardized materials testing with in vitro and in vivo paradigms consistent with regulatory guidelines. Emphasizing biocompatibility at the biomaterial-host interface, it investigates cell-cell interactions, cell-signaling and the inflammatory and complement cascades, specific interactions of protein-adsorbed materials, and other inherent biological constraints including solid-liquid interfaces, diffusion, and protein types. Unique in its inclusion of the practicalities of biomaterials as an industry, the book also covers the basic principles of statistics, new U.S. FDA information on the biomaterials-biology issues relevant to patent applications, and considerations of intellectual property and patent disclosure. With nine completely new chapters and 24 chapters extensively updated and revised with new accomplishments and contemporary data, this comprehensive introduction discusses 13 important classes of biomaterials, their fundamental and applied research, practical applications, performance properties, synthesis and testing, potential future applications, and commonly matched clinical applications. The authors include extensive references, to create a comprehensive, yet manageable didactic work that is an invaluable desk references and instructional text for undergraduates and working professionals alike.

About the AuthorDr. Jeffrey O. Hollinger graduated from Hofstra University in 1969 and received a dental degree and PhD from the University of Maryland in 1973 and 1981, respectively. In addition, he completed a dental residency program and craniofacial fellowship in the U.S. Army Dental Corps. Since 2000, Dr. Hollinger has been a tenured professor at Carnegie Mellon University (CMU) in the departments of biomedical engineering and biological sciences. He is the director of the Bone Tissue Engineering Center at CMU. From 1993 to 2000, he was a tenured professor at the Oregon Health Sciences University in the departments of surgery and developmental biology, and he directed the Northwest Wound Healing Center. In 1993 Dr. Hollinger retired from the U.S. Army as a colonel after serving 20 years of active duty. During that period, he was the director of the Armys Bone Program, as well as the director of the Department of Physiology and Biochemistry at the U.S. Army Institute of Dental Research at the Walter Reed Army Medical Center in Washington, DC. He has over 35 years of experience in bone regeneration using biological factors, biomaterials, and preclinical animal models. Dr. Hollinger has received numerous federal grants as the principal investigator (NIH, NSF, DoD, and NIST) focusing on applied and fundamental sciences for bone regeneration and is engaged with several industrial groups emphasizing bone regenerative therapeutics, as well as serving on corporate boards. Dr. Hollinger has several patents and has licensed technology developed in his lab. He received the prestigious Clemson Award in biomaterials in 2008. He has over 250 peer-reviewed publications, abstracts, book chapters, and books.