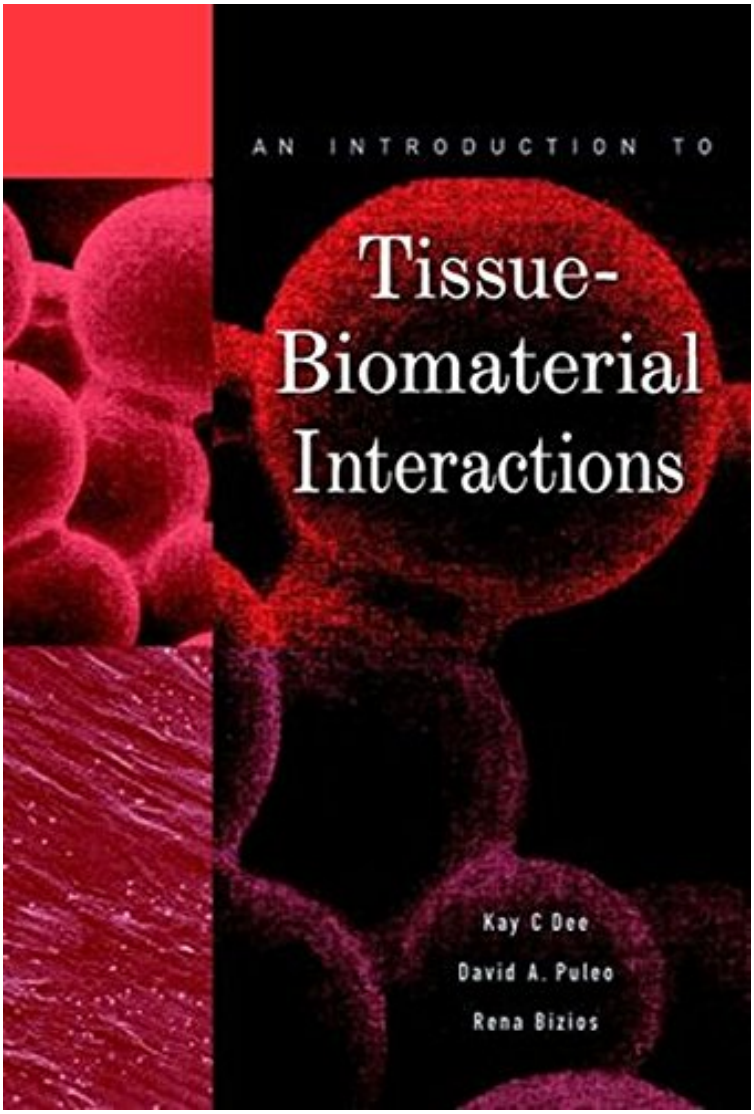
An Introduction to Tissue-Biomaterial Interactions

Kay C. Dee, David A. Puleo, Rena Bizios
*audiobook | *ebooks | Download PDF | ePub | DOC*



#1042428 in Books Kay C Dee 2002-09-02Original language:EnglishPDF # 1 10.16 x .72 x 7.24l, 1.47 #File Name: 0471253944248 pagesAn Introduction to Tissue Biomaterial Interactions | File size: 36.Mb

Kay C. Dee, David A. Puleo, Rena Bizios : An Introduction to Tissue-Biomaterial Interactions before purchasing it in order to gage whether or not it would be worth my time, and all praised An Introduction to Tissue-Biomaterial Interactions:

0 of 0 people found the following review helpful. Very poor quality picturesBy MariaI sent it back because it took it forever to get here and when it did I realized it was not the original! Very poor quality pictures, not worth $90!0 of 0 people found the following review helpful. Just as expected. Very good product quality.By CesarGreat product. Looks new as expected and arrived just in time for school.0 of 0 people found the following review helpful. Five StarsBy

paul isingomaBrand nee, and delivered within a day.

An Introduction to Tissue-Biomaterial Interactions acquaints an undergraduate audience with the fundamental biological processes that influence these sophisticated, cutting-edge procedures. Chapters one through three provide more detail about the molecular-level events that happen at the tissue-implant interface, while chapters four through ten explore selected material, biological, and physiological consequences of these events. The importance of the bodys wound-healing response is emphasized throughout. Specific topics covered include:Structure and properties of biomaterials Proteins Protein-surface interactions Blood-biomaterial interactions Inflammation and infection The immune system Biomaterial responses to implantation Biomaterial surface engineering Intimal hyperplasia and osseointegration as examples of tissue-biomaterial interactions The text also provides extensive coverage of the three pertinent interfaces between the body and the biomaterial, between the body and the living cells, and between the cells and the biomaterial that are critical in the development of tissue-engineered products that incorporate living cells within a biomaterial matrix. Ideal for a one-semester, biomedical engineering course, An Introduction to Tissue-Biomaterial Interactions provides a solid framework for understanding todays and tomorrows implantable biomedical devices.

"...well illustrated with a glossary, end-chapter summaries, and references...materials, scientists, medical device designers and manufacturers, corrosion researchers and practitioners, surgeons, and clinicians will profit from reading this book." (CORROSION, February 2006) "a concise, topical, and not overly technical hardboundthe strengths of this book are its crisp information and condensed summaries. The jewels of this book are the diagrams and tables." (Annals of Biomedical Engineering, Issue 31:11) "...delivers precisely what the authors intended...excellent book...great introduction...nicely complements existing texts..." (Advanced Materials, Vol 16(4), 17 Feb 2004) "This text would be of great use for faculty teaching courses on tissue-biomaterial interactions." (IEEE Engineering in Medicine and Biology, May/ June 2003) "...a pleasure to read...highly recommendable..." (Biomateria.com) "...excellent attention to detailrecommended for graduate students, faculty and researchers, and bioengineers and physicians." (Choice, Vol. 40, No. 6, February 2003)From the AuthorAnybody who's ever picked a scab off their knee to see what's underneath, who's wondered why a small papercut can bleed so much, or who's wondered how an embedded splinter can cause so much pain and swelling, will hopefully find this book informative. The interactions of tissues or blood with biomaterials or medical devices is an area of crucial importance to many medical technologies. The macroscopic, tissue-level events (bone resorption or growth, blood clotting, fibrous tissue encapsulation, etc.) that often determine the success or failure of medical devices or implants are, ultimately, derived from cellular- and molecular-level interactions with the tissue-implant interface. Tissue engineering, a rapidly-growing field of research and development, seeks to control the functions and assembly of living cells. A thorough understanding of fundamental biological mechanisms by which the human body reacts to foreign surfaces, cells, and molecules, is a crucial prerequisite for advanced study in tissue engineering as well as for the continued development of tissue-engineered products.From the Back CoverThe interaction of tissue and synthetic material can be the pivotal element in the artificial replacement of a body part damaged by disease or trauma. Hip replacements, dental implants, pacemaker leads, vascular grafts, heart valves, and dialysis machines all involve microscopic, tissue-level events that determine the success or failure of such devices. An Introduction to Tissue-Biomaterial Interactions acquaints an undergraduate audience with the fundamental biological processes that influence these sophisticated, cutting-edge procedures. Chapters one through three provide more detail about the molecular-level events that happen at the tissue-implant interface, while chapters four through ten explore selected material, biological, and physiological consequences of these events. The importance of the body's wound-healing response is emphasized throughout. Specific topics covered include: * Structure and properties of biomaterials * Proteins * Protein-surface interactions * Blood-biomaterial interactions * Inflammation and infection * The immune system * Biomaterial responses to implantation * Biomaterial surface engineering * Intimal hyperplasia and osseointegration as examples of tissue-biomaterial interactions The text also provides extensive coverage of the three pertinent interfaces between the body and the biomaterial, between the body and the living cells, and between the cells and the biomaterial that are critical in the development of tissue-engineered products that incorporate living cells within a biomaterial matrix. Ideal for a one-semester, biomedical engineering course, An Introduction to Tissue-Biomaterial Interactions provides a solid framework for understanding today's and tomorrow's implantable biomedical devices.