Introduction To Polymers

Synopsis

This textbook has been modified and enlarged for the new edition. The introduction and chapters dealing with synthesis and characterization have been reorganized, revised and expanded to give a broader and more thorough coverage. The chapters dealing with structure and mechanical properties have also been expanded to include new topics. This introduction discusses the synthesis, characterization, structure and mechanical properties of polymers in a single text giving approximately equal emphasis to each of these major topics. It has thus been possible to show the interrelationship of the different aspects of the subject in a coherent framework. The book has been written to be, as far as is possible, self-contained, with most equations fully derived and critically discussed. It is supported by a large number of diagrams and micrographs and is fully referenced for more advanced reading. Problems have been supplied at the end of each chapter so that students can test their understanding and practise the manipulation of data. Although the book is written primariliy for students taking courses in polymer science, care had been taken to ensure that other students and scientists in industry and research should find it a useful book for gaining a greater understanding of polymers. This book should be of interest to second and third year undergraduates and postgraduates in materials science and polymers science, other science students, including physicists and chemists, and practising materials scientists and engineers.

Book Information

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Customer Reviews

This is a lovely introductory text for polymer science, hitting on all the major concepts of characterization, structure, mechanical properties, and synthesis. Topics are covered very concisely, but with sufficient detail to be useful in several different graduate level courses on

polymers. Great background for understanding Flory-Huggins theory, chain dimensions. And an excellent price as well! Just my opinions as a grad student in some polymers courses...

OK, I'll give my 2 cents on this book. It's entitled "Introduction to Polymers" but it's not really an introductory book. Given its wide and deep topic coverage, along with its formal and rigorous style, it can best be described as a Reference book and not a teaching textbook. It's best suited to people already working in the field of polymers or graduate students or university professors - i.e. not students who need more pages devoted to the basics. Also the font size is smallish making it more of a strain to read.Originally I gave it 3 stars but now that I've used it for a while I've changed my mind to 4 stars based on its sheer comprehensiveness and excellent index. I'll deduct one star because the title is not a good match for its contents and the dry, academic tone.Good competitors to Young/Lovell are "Principles of Polymerization", 4th Edition by George Odian (highly recommended) and "Essentials of Polymer Science and Engineering" by Paul C. Painter and Michael M. Coleman (also strongly recommended).For undergraduate students in one semester polymer courses the better teaching books are:(1) Polymer Chemistry: An Introduction, 2nd or 3rd Edition by Stevens (the best of the 4)(2) Introduction to Polymer Chemistry, 2nd or 3rd Edition by Carraher, Jr.(3) Polymer Science and Technology, 2nd or 3rd Edition by Fried (a more technology oriented book)(4) Fundamentals of Polymer Science: An Introductory Text, 2nd Edition by Painter & Coleman (this book is dated in comparison to the others)

An excellent and a must read for anyone with an interest in polymeric materials. It easily is the best introductory book on the subject and I'd recommend it to all students - believe it - i've been taught by the authors! I only wish they'd also write on more specialized topics in Polymer Science.

I've got a number of books on polymers, from the basics, to the more technical aspects of their chemistry, processing, and behavior. This is still my first go to reference when I need to look something up. It's an introductory guide, yes, but it provides a good amount of depth on most topics as well.I think what I like most about this book is how it's written. It's extremely easy to read, with concepts explained in clear English without any unnecessary wording. It's very straight forward and easy to understand, even for those not wholly familiar with the science.The book covers the majority of topics you'll need to know, including definitions and nomenclature, a all the different synthesis methods, different methods of characterization, the different structures seen, and an excellent chapter on the mechanical properties and behavior, including deformation mechanisms.I'd

recommend this to any budding materials science student, whether or not it's required reading. Often times I found myself coming to this book rather than the required text, simply for ease of reading or to better familiarize myself with the concept before trying to work through the (often times) poorly worded required text.

I have used this text successfully in one of my courses. I found that it is up-to-date on current polymer synthesis techniques, and does a good job of developing the key concepts in polymer physical chemistry, polymerization mechanisms and kinetics. The problems at the end of each chapter are good homework exercises to challenge the students to understand the material more fully.

This book covers topics from stereochemistry, synthesis, structure, properties, and more. All explained in enough detail and in easy to understand wording. Highly recommended (from someone who has studied polymers for +5 years)

I must say this is one of the best texts for polymer chemistry and physics. End of chapter problems are challenging but not impossible. My only complaint is about the materials used in making the book. Poor grade of glue and ink results in pages falling out from the book and text smears just from light touching.

Very useful! I would definitely recommend it. Covers all of the basics in an easy to understand format. Does not go into heavy detail, but is all inclusive and is a great overview. It aslo has practice problems at the end of each chapter which help solidify the concepts.

Photochemistry of Man-made Polymers Polymers: Chemistry and Physics of Modern Materials, Third Edition Polymers: Physical Properties, (Methods in Experimental Physics Volume 16 Part C) Water in Polymers (Acs Symposium Series) Siloxane Polymers (Ellis Horwood Series in Polymer Science and Technology) Statistical Physics of Macromolecules (Polymers and Complex Materials)