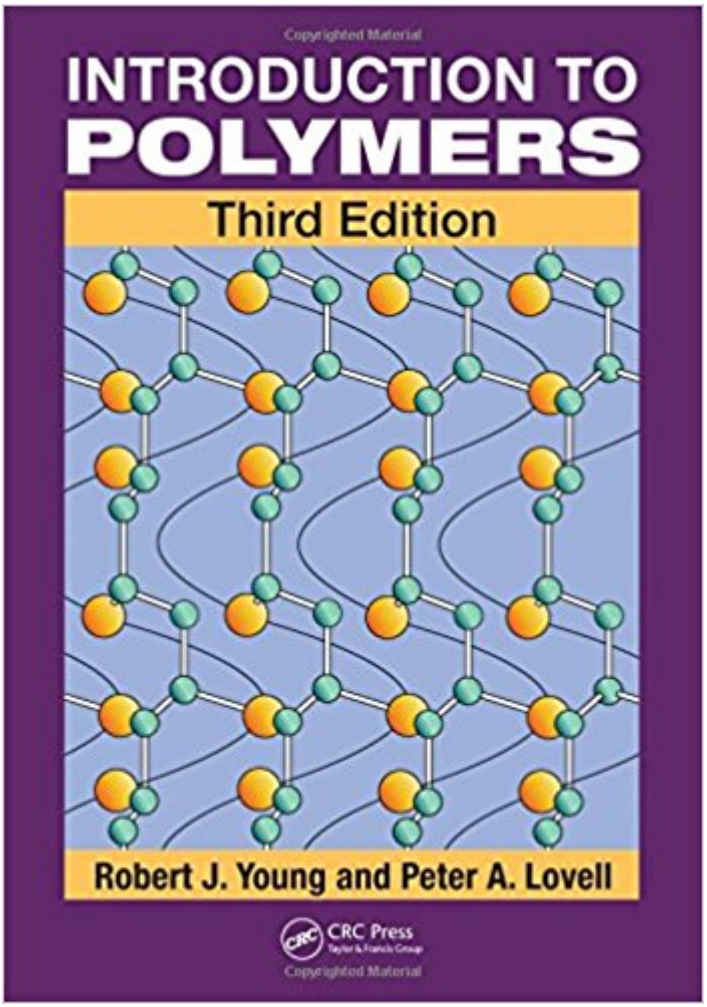
Introduction To Polymers, Third Edition



Synopsis

Thoroughly updated, Introduction to Polymers, Third Edition presents the science underpinning the synthesis, characterization and properties of polymers. The material has been completely reorganized and expanded to include important new topics and provide a coherent platform for teaching and learning the fundamental aspects of contemporary polymer science. New to the Third EditionPart IThis first part covers newer developments in polymer synthesis, including Ã¢â ¬Ëœliving Ã¢â ¬â„¢ radical polymerization, catalytic chain transfer and free-radical ring-opening polymerization, along with strategies for the synthesis of conducting polymers, dendrimers, hyperbranched polymers and block copolymers. Polymerization mechanisms have been made more explicit by showing electron movements. Part IIIn this part, the authors have added new topics on diffusion, solution behaviour of polyelectrolytes and field-flow fractionation methods. They also greatly expand coverage of spectroscopy, including UV visible, Raman, infrared, NMR and mass spectroscopy. In addition, the Flory Ã¢â ¬â œHuggins theory for polymer solutions and their phase separation is treated more rigorously. Part IIIA completely new, major topic in this section is multicomponent polymer systems. The book also incorporates new material on macromolecular dynamics and reptation, liquid crystalline polymers and thermal analysis. Many of the diagrams and micrographs have been updated to more clearly highlight features of polymer morphology. Part IVThe last part of the book contains major new sections on polymer composites, such as nanocomposites, and electrical properties of polymers. Other new topics include effects of chain entanglements, swelling of elastomers, polymer fibres, impact behaviour and ductile fracture. Coverage of rubber-toughening of brittle plastics has also been revised and expanded. While this edition adds many new concepts, the philosophy of the book remains unchanged. Largely self-contained, the text fully derives most equations and cross-references topics between chapters where appropriate. Each chapter not only includes a list of further reading to help readers expand their knowledge of the subject but also provides problem sets to test understanding, particularly of numerical aspects.

Book Information

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Customer Reviews

The second edition of this book is currently the recommended text for a second year undergraduate lecture course I deliver. In future I will recommend the third edition for both this course and a fourth year (Masters) lecture course on advanced polymer synthesis. Moreover, not only have Young and Lovell produced an excellent text (again) for supporting undergraduate teaching, this book is also a superb entry level text for postgraduates students with limited experience of polymers.Ã¢â ¬â ¢Chemistry World, 2012

Robert J. Young is a professor of polymer science and technology at the University of Manchester and a Fellow of the Royal Academy of Engineering. He has published extensively and is listed on ISIHighlyCited.com. His research focuses on the relationships between structure and properties in polymers and composites. Peter A. Lovell is a professor of polymer science at the University of Manchester. His research and publications focus on aspects of emulsion polymerization and related processes, especially in relation to understanding how to control the chemical structure, morphology and properties of the polymers produced.

Very useful text for beginning study of polymers. It approaches the subject from a chemistry standpoint and is useful for looking up reactions. I find it easier to read and study from than Odian’s Principles of Polymerization. I would recommend this book with Polymer Chemistry by Heimenz and Lodge for anyone taking polymer courses or starting in polymer research. Using the two texts together gives you a nice overview of important points in polymer chemistry and engineering and gives useful examples of real world problems.

I feel that this textbook is mostly filler. They could have made it smaller and faster to read, but they

didn’t. It was also very unenjoyable to read, even by textbook standards.

OK

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.

Young’s classic has been beefed up. Nice updates and additions. For those in need of a good general reference on polymers, this is it.

Only viewable on my ipad and not on the web interface

Book was in perfect condition. Material is an easy read for someone in the field. Delivery was very speedy. I am very happy with the purchase.

Contains a ton of information and is perfect for learning the basics of polymers. I had little background in polymers before I took a class that used this book but it helped me learn and was very easy to understand.

Processing of Metals, Ceramics and Polymers Fracture Mechanics of Polymers (Ellis Horwood series in engineering science) Fractography in Failure Analysis of Polymers (Plastics Design Library) Wear of Polymers and Composites Lattice Models of Polymers (Cambridge Lecture Notes in Physics)