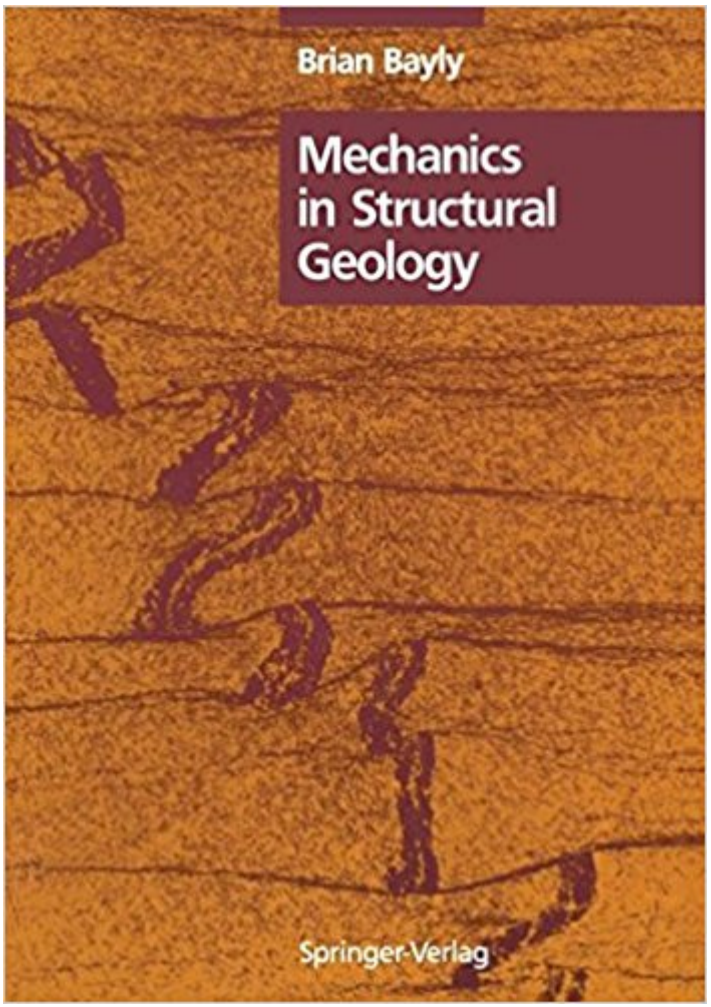
Mechanics In Structural Geology



Synopsis

From the reviews: "...one of the charms of this book is that it is different from both structural geology text books and mechanics texts. Bayly has brought these two fields together admirably, with great intelligence, imagination and originality. For this reason alone, I think all active structural geologists, whether in research or teaching, and particularly those concerned with theory, should read this book."(Journal of Structural Geology)

Book Information

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Customer Reviews

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This content of this book should be familiar to all geologists interested in the mechanical processes of Structural Geology. This includes not only what is generally encompassed in Structural Geology, but also metamorphism, sedimentary compaction, clay diagenesis, overpressured zones encountered in oil drilling, and other related topics.In this short volume Bayly shows how to THINK about deformation. He uses the Mohr Circle - generally viewed by students as a boring diversion - like a Swiss Army Knife. Through numerous examples and short exercises ranging from the microscopic to the mountain range Bayly shows the reader HOW to think about rock deformation

and by association WHY to think about rock deformation. Examples range widely from pressure solution during metamorphism or lithification to tectonic collision zones to dewatering of a sedimentary pile.Chapter contents are:1. Introduction2. Strains and Displacements3. Forces and Stresses4. Variation of stress with direction5. Rheology6. Parting7. Concurrent fracture and flowThe general scheme of each chapter/section is to present an example to fix in the reader's mind the concept, then to guide/prompt the reader to an appropriate level of understanding, and finally to present an example in the form of a problem to be solved. Answers are provided so the reader can check his/her understanding.The book is still available from the publisher though used copies of the book are also currently available at a very reasonable price. Although the publisher rates the content level as "lower undergraduate", students with no prior experience with structural geology or mechanics will likely find it difficult. I think the venues for which this book is most suitable are independent study by students of structural geology or an advanced seminar at the graduate or undergraduate level.