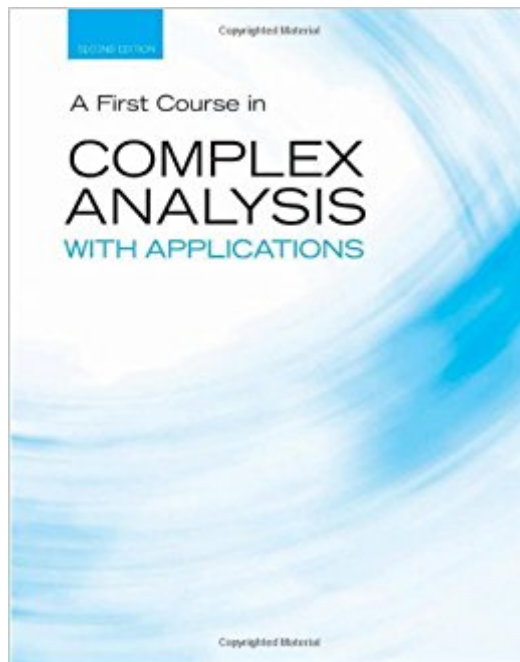# A First Course In Complex Analysis With Applications (Jones And Bartlett Publishers Series In Mathematics: Complex)

Synopsis

The new Second Edition of A First Course in Complex Analysis with Applications is a truly accessible introduction to the fundamental principles and applications of complex analysis. Designed for the undergraduate student with a calculus background but no prior experience with complex variables, this text discusses theory of the most relevant mathematical topics in a student-friendly manner. With Zill's clear and straightforward writing style, concepts are introduced through numerous examples and clear illustrations. Students are guided and supported through numerous proofs providing them with a higher level of mathematical insight and maturity. Each chapter contains a separate section on the applications of complex variables, providing students with the opportunity to develop a practical and clear understanding of complex analysis.

Book Information

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Customer Reviews

I used this book for an undergrad course in Complex Analysis. This book is great for undergraduates looking for some sort of exposure to the realm of complex analysis and is is especially great for students of Physics and EngineeringThe book covers the basics of analytic function theory, Cauchy-Riemann Equations, Cauchy Integral Theorems, Series and Sequences, Conformal Mapping, Residue Calculus, as well as a section of applications at the end of every chapter. The book is very readable, and a lot more beginner-friendly as opposed to Alfhors, which would be the next great read for the student interested in complex analysis at the graduate level.

Overall this is a great intro to some really beautiful mathematics. I know I enjoyed the book.

I used this book for two Graduate semesters of Complex Analysis. The course text was Brown and Churchill which I often found lacking in detail. This book might not be consider by some as a Graduate level text however I found it to be an excellent supplemental text to fill in the gaps and improve my understanding of the material.

(You can see a sample of this book on Google Books (just type in the books name), also a sample of the Student Guide). I am taking this course in fall 09 and I can say that having been assigned many bad books throughout my courses you really appreciate when you find one that is as perfectly written and presented as this one. The book my instructor makes us get is the worst thing I have ever seen. It does not explain anything just presents definitions, theorems, and proofs then says here is 2 examples (which have nothing to do with what you are trying to learn) then gives you 10 problems and says do them (but isn't clear on its instructions). My instructor presents in this same manner so I can see why this was the book chosen. A few people in the class are getting outside help but won't say from where so this book is a lifesaver. Unfortunately I found it too late, but I hope you will find it in time if you take this class. I strongly recommend this book over all others for anyone (not just in classes) who wishes to learn complex.

I used this book in conjunction with "Fundamentals of Complex Analysis..." by Saff et al for a graduate level course.This book gives very clear introductions and explanations of complex variable concepts and served as a boon for my first complex variable course; I went through many other books but they all seemed to be much more abstract that this one. If you're new to the world of complex variables and have trouble reading existing books, this book may very well be your life saver.Another reference: Search for "Complex Analysis Modules by Mathews") on google. This served as a great online reference and has a corresponding book: COMPLEX ANALYSIS: for Mathematics and Engineering by John H. Mathews and Russell W. Howell. Although I did not read this book, the author has put up wonderful online notes which I did use.

I am a mathematics major at a small college. At my school, courses are done in tutorial style, which means there are no lectures. The student reads and teaches themselves the material and then their understanding is checked in the tutorial through conversations with the instructor. Professors don't teach, unless there are questions. They listen to you talk about the subject and observe your

problem solving. This means the right textbook is crucial for learning the material deeply (and passing).That being said, I've struggled greatly to find a text that was self contained. I own a large number, both pitched to math majors and engineers. I have Needham, Silverman, Ablowitz and Fokas, Saff and Snyder, Palka, D'Angelo, Bak and Newman, and now Zill and Shanahan.Not all of the these texts are terrible, but Zill and Shanahan is the most self-contained and learning from this is most expedient. It is the only book I've seen that is structured like one of the now commonplace textbooks in the calculus sequence e.g. the Stewart series. For a subject like Complex analysis I think this structure is very appropriate as an introduction. The next closest text in coherency is the Ablowitz and Fokas. Both have greatly enhanced my understanding. Sometimes I supplement the former with problems from the latter, which tend to be a bit more challenging.For a student with little experience with complex numbers/analysis, I don't think there is a better substitute for a first course. This is the safest bet.Incidentally, this is perfectly suitable for math majors. It's rigorous enough and the problems are pitched in a range of difficulty. Shouldn't be deprecated because it has "applications" in the title.

This book is the best book for self study I found. Now that it has a self study guide with every other odd problem worked it even adds to its value. I took this course years ago and forgot most of it. I needed contour integrals for quantum field theory. This book also includes complex fourier analysis. Starts off with polar forms of complex numbers. Gets into a little complex analysis, but not too deep to not be able to follow. This book is the perfect book for anyone taking quantum mechanics or quantum field theory. Includes hermitian matrices. It then goes into complex differentiation and integrals. This book is about the level of looking back at a calculus II book after taking differential equations. The authors explain things at a level of a good calculus book.

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