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Caring for LGBTQ2S People Amy Bourns 2022-04-27 Increasing awareness of healthcare disparities and unique health needs of LGBTQ2S people calls for a revitalization of health professional training programs. As new topics become integrated into these programs, there is a great need for a comprehensive resource that aligns with Canadian guidelines and standards of care. *Caring for LGBTQ2S People* identifies gaps in care and health care disparities, and provides clinicians with both the knowledge and the tools to continue to improve the health of LGBTQ2S people. Written by expert authors, this fully updated version builds on the critically praised first edition and highlights the significant social, medical, and legal progress that has occurred in Canada since 2003. The book includes general medical information and guidance that is useful for anyone providing care to LGBTQ2S people. Chapters in this edition provide background on the fundamentals of language, cultural competency, and the patient-provider relationship, and include contemporary and expanded discussion on STIs, HIV, substance use, mental health, fertility, and trans health. This clinical guide is written for a general and trainee-level reader in health care and primary care and showcases a comprehensive understanding of LGBTQ2S health while also concluding with unique considerations for those who experience an intersection of diverse identities.

Calculus II Jerrold Marsden 1998-01-09 The second of a three-volume work, this is the result of the authors' experience teaching calculus at Berkeley. The book covers techniques and applications of integration, infinite series, and differential equations, the whole time motivating the study of calculus using its applications. The authors include numerous solved problems, as well as extensive exercises at the end of each section. In addition, a separate student guide has been prepared.

Calcium as a Cellular Regulator Ernesto Carafoli 1999 Encompassing all aspects

of calcium signalling, from methods of measuring calcium in cells to the molecular mechanisms for decoding its information, this comprehensive book balances historical aspects and state of the art developments.

Lectures on Symplectic Geometry Ana Cannas da Silva 2004-10-27 The goal of these notes is to provide a fast introduction to symplectic geometry for graduate students with some knowledge of differential geometry, de Rham theory and classical Lie groups. This text addresses symplectomorphisms, local forms, contact manifolds, compatible almost complex structures, Kaehler manifolds, hamiltonian mechanics, moment maps, symplectic reduction and symplectic toric manifolds. It contains guided problems, called homework, designed to complement the exposition or extend the reader's understanding. There are by now excellent references on symplectic geometry, a subset of which is in the bibliography of this book. However, the most efficient introduction to a subject is often a short elementary treatment, and these notes attempt to serve that purpose. This text provides a taste of areas of current research and will prepare the reader to explore recent papers and extensive books on symplectic geometry where the pace is much faster. For this reprint numerous corrections and clarifications have been made, and the layout has been improved.

Engineering Unesco 2010-01-01 This report reviews engineering's importance to human, economic, social and cultural development and in addressing the UN Millennium Development Goals. Engineering tends to be viewed as a national issue, but engineering knowledge, companies, conferences and journals, all demonstrate that it is as international as science. The report reviews the role of engineering in development, and covers issues including poverty reduction, sustainable development, climate change mitigation and adaptation. It presents the various fields of engineering around the world and is intended to identify issues and challenges facing engineering, promote better understanding of engineering and its role, and highlight ways of making engineering more attractive to young people, especially women.--Publisher's description.

Real Analysis (Classic Version) Halsey Royden 2017-02-13 Originally published in 2010, reissued as part of Pearson's modern classic series.

Advances in Social Network Analysis Stanley Wasserman 1994-07-27 In this book, leading methodologists address the issue of how effectively to apply the latest developments in social network analysis to behavioural and social science disciplines. Topics examined include: ways to specify the network contents to be studied; how to select the method for representing network structures; how social network analysis has been used to study interorganizational relations via the resource dependence model; how to use a contact matrix for studying the spread of disease in epidemiology; and how cohesion and structural equivalence network theories relate to studying social influence. The book also offers some statistical models for social support networks.

Introduction to Real Analysis Michael J. Schramm 2012-05-11 This text forms a bridge between courses in calculus and real analysis. Suitable for advanced

undergraduates and graduate students, it focuses on the construction of mathematical proofs. 1996 edition.

Function Theory of One Complex Variable Robert Everist Greene 2006 Complex analysis is one of the most central subjects in mathematics. It is compelling and rich in its own right, but it is also remarkably useful in a wide variety of other mathematical subjects, both pure and applied. This book is different from others in that it treats complex variables as a direct development from multivariable real calculus. As each new idea is introduced, it is related to the corresponding idea from real analysis and calculus. The text is rich with examples and exercises that illustrate this point. The authors have systematically separated the analysis from the topology, as can be seen in their proof of the Cauchy theorem. The book concludes with several chapters on special topics, including full treatments of special functions, the prime number theorem, and the Bergman kernel. The authors also treat H^p spaces and Painlevé's theorem on smoothness to the boundary for conformal maps. This book is a text for a first-year graduate course in complex analysis. It is an engaging and modern introduction to the subject, reflecting the authors' expertise both as mathematicians and as expositors.

Fundamental Ideas of Analysis Michael C. Reed 1998 The ideas and methods of mathematics, long central to the physical sciences, now play an increasingly important role in a wide variety of disciplines. Analysis provides theorems that prove that results are true and provides techniques to estimate the errors in approximate calculations. The ideas and methods of analysis play a fundamental role in ordinary differential equations, probability theory, differential geometry, numerical analysis, complex analysis, partial differential equations, as well as in most areas of applied mathematics.

Invariant Subspaces of Matrices with Applications Israel Gohberg 2006-03-01 This unique book addresses advanced linear algebra using invariant subspaces as the central notion and main tool. It comprehensively covers geometrical, algebraic, topological, and analytic properties of invariant subspaces, laying clear mathematical foundations for linear systems theory with a thorough treatment of analytic perturbation theory for matrix functions.

The SAGE Handbook of Social Network Analysis John Scott 2011-05-18 This sparkling Handbook offers an unrivalled resource for those engaged in the cutting edge field of social network analysis. Systematically, it introduces readers to the key concepts, substantive topics, central methods and prime debates. Among the specific areas covered are: Network theory Interdisciplinary applications Online networks Corporate networks Lobbying networks Deviant networks Measuring devices Key Methodologies Software applications. The result is a peerless resource for teachers and students which offers a critical survey of the origins, basic issues and major debates. The Handbook provides a one-stop guide that will be used by readers for decades to come.

Vector Calculus Jerrold E. Marsden 2003-08 'Vector Calculus' helps students

foster computational skills and intuitive understanding with a careful balance of theory, applications, and optional materials. This new edition offers revised coverage in several areas as well as a large number of new exercises and expansion of historical notes.

Feedback Systems Karl Johan Åström 2021-02-02 The essential introduction to the principles and applications of feedback systems—now fully revised and expanded This textbook covers the mathematics needed to model, analyze, and design feedback systems. Now more user-friendly than ever, this revised and expanded edition of Feedback Systems is a one-volume resource for students and researchers in mathematics and engineering. It has applications across a range of disciplines that utilize feedback in physical, biological, information, and economic systems. Karl Åström and Richard Murray use techniques from physics, computer science, and operations research to introduce control-oriented modeling. They begin with state space tools for analysis and design, including stability of solutions, Lyapunov functions, reachability, state feedback observability, and estimators. The matrix exponential plays a central role in the analysis of linear control systems, allowing a concise development of many of the key concepts for this class of models. Åström and Murray then develop and explain tools in the frequency domain, including transfer functions, Nyquist analysis, PID control, frequency domain design, and robustness. Features a new chapter on design principles and tools, illustrating the types of problems that can be solved using feedback Includes a new chapter on fundamental limits and new material on the Routh-Hurwitz criterion and root locus plots Provides exercises at the end of every chapter Comes with an electronic solutions manual An ideal textbook for undergraduate and graduate students Indispensable for researchers seeking a self-contained resource on control theory

Visual Complex Functions Elias Wegert 2012-08-30 This book provides a systematic introduction to functions of one complex variable. Its novel feature is the consistent use of special color representations – so-called phase portraits – which visualize functions as images on their domains. Reading Visual Complex Functions requires no prerequisites except some basic knowledge of real calculus and plane geometry. The text is self-contained and covers all the main topics usually treated in a first course on complex analysis. With separate chapters on various construction principles, conformal mappings and Riemann surfaces it goes somewhat beyond a standard programme and leads the reader to more advanced themes. In a second storyline, running parallel to the course outlined above, one learns how properties of complex functions are reflected in and can be read off from phase portraits. The book contains more than 200 of these pictorial representations which endow individual faces to analytic functions. Phase portraits enhance the intuitive understanding of concepts in complex analysis and are expected to be useful tools for anybody working with special functions – even experienced researchers may be inspired by the pictures to new and challenging questions. Visual Complex Functions may also serve as a companion to other texts or as a reference work for advanced readers who wish to know more about phase portraits.

Basic Complex Analysis Jerrold E. Marsden 1999 Basic Complex Analysis skillfully combines a clear exposition of core theory with a rich variety of applications. Designed for undergraduates in mathematics, the physical sciences, and engineering who have completed two years of calculus and are taking complex analysis for the first time..

Cumulated Index Medicus 1994

Complex Analysis with Applications Nakhlé H. Asmar 2018-10-12 This textbook is intended for a one semester course in complex analysis for upper level undergraduates in mathematics. Applications, primary motivations for this text, are presented hand-in-hand with theory enabling this text to serve well in courses for students in engineering or applied sciences. The overall aim in designing this text is to accommodate students of different mathematical backgrounds and to achieve a balance between presentations of rigorous mathematical proofs and applications. The text is adapted to enable maximum flexibility to instructors and to students who may also choose to progress through the material outside of coursework. Detailed examples may be covered in one course, giving the instructor the option to choose those that are best suited for discussion. Examples showcase a variety of problems with completely worked out solutions, assisting students in working through the exercises. The numerous exercises vary in difficulty from simple applications of formulas to more advanced project-type problems. Detailed hints accompany the more challenging problems. Multi-part exercises may be assigned to individual students, to groups as projects, or serve as further illustrations for the instructor. Widely used graphics clarify both concrete and abstract concepts, helping students visualize the proofs of many results. Freely accessible solutions to every-other-odd exercise are posted to the book's Springer website. Additional solutions for instructors' use may be obtained by contacting the authors directly.

Principles of Mathematical Analysis Walter Rudin 1976 The third edition of this well known text continues to provide a solid foundation in mathematical analysis for undergraduate and first-year graduate students. The text begins with a discussion of the real number system as a complete ordered field. (Dedekind's construction is now treated in an appendix to Chapter I.) The topological background needed for the development of convergence, continuity, differentiation and integration is provided in Chapter 2. There is a new section on the gamma function, and many new and interesting exercises are included. This text is part of the Walter Rudin Student Series in Advanced Mathematics.

Complex Function Theory Donald Sarason 2007-12-20 Complex Function Theory is a concise and rigorous introduction to the theory of functions of a complex variable. Written in a classical style, it is in the spirit of the books by Ahlfors and by Saks and Zygmund. Being designed for a one-semester course, it is much shorter than many of the standard texts. Sarason covers the basic material through Cauchy's theorem and applications, plus the Riemann mapping

theorem. It is suitable for either an introductory graduate course or an undergraduate course for students with adequate preparation. The first edition was published with the title Notes on Complex Function Theory.

Choice 1973

Complex Analysis through Examples and Exercises E. Pap 2013-03-09 The book Complex Analysis through Examples and Exercises has come out from the lectures and exercises that the author held mostly for mathematician and physicists. The book is an attempt to present the rather involved subject of complex analysis through an active approach by the reader. Thus this book is a complex combination of theory and examples. Complex analysis is involved in all branches of mathematics. It often happens that the complex analysis is the shortest path for solving a problem in real circumstances. We are using the (Cauchy) integral approach and the (Weierstrass) power series approach. In the theory of complex analysis, on the hand one has an interplay of several mathematical disciplines, while on the other various methods, tools, and approaches. In view of that, the exposition of new notions and methods in our book is taken step by step. A minimal amount of expository theory is included at the beginning of each section, the Preliminaries, with maximum effort placed on well selected examples and exercises capturing the essence of the material. Actually, I have divided the problems into two classes called Examples and Exercises (some of them often also contain proofs of the statements from the Preliminaries). The examples contain complete solutions and serve as a model for solving similar problems given in the exercises. The readers are left to find the solution in the exercises; the answers, and, occasionally, some hints, are still given.

A First Course in Complex Analysis with Applications Dennis Zill 2009 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.

Calcium-Binding Protein Protocols Hans J. Vogel 2008-02-04 Calcium plays an important role in a wide variety of biological processes. This divalent metal ion can bind to a large number of proteins; by doing so it modifies their biological activity or their stability. Because of its distinct chemical properties calcium is uniquely suited to act as an on-off switch or as a light dimmer of biological activities. The two books entitled Calcium-Binding Protein Protocols (Volumes I and II) focus on modern experimental analyses and

methodologies for the study of calcium-binding proteins. Both extracellular and intracellular calcium-binding proteins are discussed in detail. However, proteins involved in calcium handling (e. g. , calcium pumps and calcium channels), fall outside of the scope of these two volumes. Also, calcium-binding proteins involved in bone deposition will not be discussed, as this specific topic has been addressed previously. The focus of these two books is on studies of the calcium-binding proteins and their behavior in vitro and in vivo. The primary emphasis is on protein chemistry and biophysical methods. Many of the methods described will also be applicable to proteins that do not bind calcium. Calcium-Binding Protein Protocols is divided into three main sections. The section entitled Introduction and Reviews provides information on the role of calcium in intracellular secondary messenger activation mechanisms. Moreover, unique aspects of calcium chemistry and the utilization of calcium in dairy proteins, as well as calcium-binding proteins involved in blood clotting, are addressed.

Complex Analysis Dennis G. Zill 2013-09-20 Designed for the undergraduate student with a calculus background but no prior experience with complex analysis, this text discusses the theory of the most relevant mathematical topics in a student-friendly manner. With a clear and straightforward writing style, concepts are introduced through numerous examples, illustrations, and applications. Each section of the text contains an extensive exercise set containing a range of computational, conceptual, and geometric problems. In the text and exercises, 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 devoted exclusively to the applications of complex analysis to science and engineering, providing students with the opportunity to develop a practical and clear understanding of complex analysis. The Mathematica syntax from the second edition has been updated to coincide with version 8 of the software. --

Conformation of Carbohydrates V. S. R. Rao 2019-08-22 This text will give the reader a firm understanding of all aspects of carbohydrate conformation by describing and explaining the importance of interactions between carbohydrates and interactions of carbohydrates with proteins, nucleic acids or any other macromolecule., The authors have gathered a wealth of information on carbohydrate structures, different methods of conformational analysis, the role of carbohydrates as recognition molecules in biological systems and their industrial applications., Whether you are a student, teacher or a basic researcher, this text book is a 'one-stop' source of current information on carbohydrate conformation and the potential use of conformational properties in industry and also of their crucial role in important biological events such as cell-cell interaction, cell adhesion, cellular signaling mechanism.

Elementary Classical Analysis Jerrold E. Marsden 1993-03-15 Designed for courses in advanced calculus and introductory real analysis, Elementary Classical Analysis strikes a careful balance between pure and applied mathematics with an emphasis on specific techniques important to classical

analysis without vector calculus or complex analysis. Intended for students of engineering and physical science as well as of pure mathematics.

Complex Analysis Elias M. Stein 2010-04-22 With this second volume, we enter the intriguing world of complex analysis. From the first theorems on, the elegance and sweep of the results is evident. The starting point is the simple idea of extending a function initially given for real values of the argument to one that is defined when the argument is complex. From there, one proceeds to the main properties of holomorphic functions, whose proofs are generally short and quite illuminating: the Cauchy theorems, residues, analytic continuation, the argument principle. With this background, the reader is ready to learn a wealth of additional material connecting the subject with other areas of mathematics: the Fourier transform treated by contour integration, the zeta function and the prime number theorem, and an introduction to elliptic functions culminating in their application to combinatorics and number theory. Thoroughly developing a subject with many ramifications, while striking a careful balance between conceptual insights and the technical underpinnings of rigorous analysis, *Complex Analysis* will be welcomed by students of mathematics, physics, engineering and other sciences. The Princeton Lectures in Analysis represents a sustained effort to introduce the core areas of mathematical analysis while also illustrating the organic unity between them. Numerous examples and applications throughout its four planned volumes, of which *Complex Analysis* is the second, highlight the far-reaching consequences of certain ideas in analysis to other fields of mathematics and a variety of sciences. Stein and Shakarchi move from an introduction addressing Fourier series and integrals to in-depth considerations of complex analysis; measure and integration theory, and Hilbert spaces; and, finally, further topics such as functional analysis, distributions and elements of probability theory.

Complex Analysis Theodore W. Gamelin 2013-11-01 An introduction to complex analysis for students with some knowledge of complex numbers from high school. It contains sixteen chapters, the first eleven of which are aimed at an upper division undergraduate audience. The remaining five chapters are designed to complete the coverage of all background necessary for passing PhD qualifying exams in complex analysis. Topics studied include Julia sets and the Mandelbrot set, Dirichlet series and the prime number theorem, and the uniformization theorem for Riemann surfaces, with emphasis placed on the three geometries: spherical, euclidean, and hyperbolic. Throughout, exercises range from the very simple to the challenging. The book is based on lectures given by the author at several universities, including UCLA, Brown University, La Plata, Buenos Aires, and the Universidad Autonoma de Valencia, Spain.

Real Analysis: A Comprehensive Course in Analysis, Part 1 Barry Simon 2015-11-02 A Comprehensive Course in Analysis by Poincaré Prize winner Barry Simon is a five-volume set that can serve as a graduate-level analysis textbook with a lot of additional bonus information, including hundreds of problems and numerous notes that extend the text and provide important historical background. Depth and breadth of exposition make this set a valuable reference

source for almost all areas of classical analysis. Part 1 is devoted to real analysis. From one point of view, it presents the infinitesimal calculus of the twentieth century with the ultimate integral calculus (measure theory) and the ultimate differential calculus (distribution theory). From another, it shows the triumph of abstract spaces: topological spaces, Banach and Hilbert spaces, measure spaces, Riesz spaces, Polish spaces, locally convex spaces, Fréchet spaces, Schwartz space, and spaces. Finally it is the study of big techniques, including the Fourier series and transform, dual spaces, the Baire category, fixed point theorems, probability ideas, and Hausdorff dimension. Applications include the constructions of nowhere differentiable functions, Brownian motion, space-filling curves, solutions of the moment problem, Haar measure, and equilibrium measures in potential theory.

Mathematical Foundations of Elasticity Jerrold E. Marsden 2012-10-25 Graduate-level study approaches mathematical foundations of three-dimensional elasticity using modern differential geometry and functional analysis. It presents a classical subject in a modern setting, with examples of newer mathematical contributions. 1983 edition.

Complex Variables and Applications Ruel Vance Churchill 1960

Complex Variables with Applications Saminathan Ponnusamy 2007-05-26 Explores the interrelations between real and complex numbers by adopting both generalization and specialization methods to move between them, while simultaneously examining their analytic and geometric characteristics Engaging exposition with discussions, remarks, questions, and exercises to motivate understanding and critical thinking skills Enclues numerous examples and applications relevant to science and engineering students

Fundamentals of Complex Analysis with Applications to Engineering and Science E. B. Saff 2019

Advanced Calculus Lynn Harold Loomis 2014-02-26 An authorised reissue of the long out of print classic textbook, *Advanced Calculus* by the late Dr Lynn Loomis and Dr Shlomo Sternberg both of Harvard University has been a revered but hard to find textbook for the advanced calculus course for decades. This book is based on an honors course in advanced calculus that the authors gave in the 1960's. The foundational material, presented in the unstarred sections of Chapters 1 through 11, was normally covered, but different applications of this basic material were stressed from year to year, and the book therefore contains more material than was covered in any one year. It can accordingly be used (with omissions) as a text for a year's course in advanced calculus, or as a text for a three-semester introduction to analysis. The prerequisites are a good grounding in the calculus of one variable from a mathematically rigorous point of view, together with some acquaintance with linear algebra. The reader should be familiar with limit and continuity type arguments and have a certain amount of mathematical sophistication. As possible introductory texts, we mention *Differential and Integral Calculus* by R Courant, *Calculus* by T Apostol,

Calculus by M Spivak, and Pure Mathematics by G Hardy. The reader should also have some experience with partial derivatives. In overall plan the book divides roughly into a first half which develops the calculus (principally the differential calculus) in the setting of normed vector spaces, and a second half which deals with the calculus of differentiable manifolds.

Understanding Analysis Stephen Abbott 2012-12-06 This elementary presentation exposes readers to both the process of rigor and the rewards inherent in taking an axiomatic approach to the study of functions of a real variable. The aim is to challenge and improve mathematical intuition rather than to verify it. The philosophy of this book is to focus attention on questions which give analysis its inherent fascination. Each chapter begins with the discussion of some motivating examples and concludes with a series of questions.

Complex Variables Robert B. Ash 2007-01-01 This text on complex variables is geared toward graduate students and undergraduates who have taken an introductory course in real analysis. It is a substantially revised and updated edition of the popular text by Robert B. Ash, offering a concise treatment that provides careful and complete explanations as well as numerous problems and solutions. An introduction presents basic definitions, covering topology of the plane, analytic functions, real-differentiability and the Cauchy-Riemann equations, and exponential and harmonic functions. Succeeding chapters examine the elementary theory and the general Cauchy theorem and its applications, including singularities, residue theory, the open mapping theorem for analytic functions, linear fractional transformations, conformal mapping, and analytic mappings of one disk to another. The Riemann mapping theorem receives a thorough treatment, along with factorization of analytic functions. As an application of many of the ideas and results appearing in earlier chapters, the text ends with a proof of the prime number theorem.

EVOLVE- A Bridge between Probability, Set Oriented Numerics and Evolutionary Computation Emilia Tantar 2012-09-14 The aim of this book is to provide a strong theoretical support for understanding and analyzing the behavior of evolutionary algorithms, as well as for creating a bridge between probability, set-oriented numerics and evolutionary computation. The volume encloses a collection of contributions that were presented at the EVOLVE 2011 international workshop, held in Luxembourg, May 25-27, 2011, coming from invited speakers and also from selected regular submissions. The aim of EVOLVE is to unify the perspectives offered by probability, set oriented numerics and evolutionary computation. EVOLVE focuses on challenging aspects that arise at the passage from theory to new paradigms and practice, elaborating on the foundations of evolutionary algorithms and theory-inspired methods merged with cutting-edge techniques that ensure performance guarantee factors. EVOLVE is also intended to foster a growing interest for robust and efficient methods with a sound theoretical background. The chapters enclose challenging theoretical findings, concrete optimization problems as well as new perspectives. By gathering contributions from researchers with different backgrounds, the book is expected to set the basis for a unified view and

vocabulary where theoretical advancements may echo in different domains.

A Problem Book in Real Analysis Asuman G. Aksoy 2010-03-10 Education is an admirable thing, but it is well to remember from time to time that nothing worth knowing can be taught. Oscar Wilde, "The Critic as Artist," 1890. Analysis is a profound subject; it is neither easy to understand nor summarize. However, Real Analysis can be discovered by solving problems. This book aims to give independent students the opportunity to discover Real Analysis by themselves through problem solving.

The depth and complexity of the theory of Analysis can be appreciated by taking a glimpse at its developmental history. Although Analysis was conceived in the 17th century during the Scientific Revolution, it has taken nearly two hundred years to establish its theoretical basis. Kepler, Galileo, Descartes, Fermat, Newton and Leibniz were among those who contributed to its genesis. Deep conceptual changes in Analysis were brought about in the 19th century by Cauchy and Weierstrass. Furthermore, modern concepts such as open and closed sets were introduced in the 1900s. Today nearly every undergraduate mathematics program requires at least one semester of Real Analysis. Often, students consider this course to be the most challenging or even intimidating of all their mathematics major requirements. The primary goal of this book is to alleviate those concerns by systematically solving the problems related to the core concepts of most analysis courses. In doing so, we hope that learning analysis becomes less taxing and thereby more satisfying.

Functions of One Complex Variable J.B. Conway 2012-12-06 This book is intended as a textbook for a first course in the theory of functions of one complex variable for students who are mathematically mature enough to understand and execute $\epsilon - \delta$ arguments. The actual prerequisites for reading this book are quite minimal; not much more than a stiff course in basic calculus and a few facts about partial derivatives. The topics from advanced calculus that are used (e.g., Leibniz's rule for differentiating under the integral sign) are proved in detail. Complex Variables is a subject which has something for all mathematicians. In addition to having applications to other parts of analysis, it can rightly claim to be an ancestor of many areas of mathematics (e.g., homotopy theory, manifolds). This view of Complex Analysis as "An Introduction to Mathematics" has influenced the writing and selection of subject matter for this book. The other guiding principle followed is that all definitions, theorems, etc.