Complex Analysis Department Of Mathematics At Rice

Combinatorial and Geometric Group TheoryAdvances in Real and Complex Analysis with ApplicationsComplex AnalysisA Complex Analysis Problem BookGeometric Complex Analysis - Proceedings Of The Third International Research Institute Of Mathematical Society Of JapanApproximation, Complex Analysis, and Potential TheorySPECIAL FUNCTIONS AND COMPLEX VARIABLES (ENGINEERING MATHEMATICS III)Applied Complex VariablesComplex Analysis and GeometryComplex Analysis and Dynamical Systems VPerspectives of Complex Analysis, Differential Geometry and Mathematical PhysicsIntroductory Complex AnalysisComplex AnalysisQuasi-Linear Perturbations of Hamiltonian Klein-Gordon Equations on SpheresComplex Analysis and GeometryComplex AnalysisThe Grothendieck Inequality RevisitedA First Course in Complex Analysis with ApplicationsComplex AnalysisUnitary Invariants in Multivariable Operator TheoryComplex AnalysisAdvancements in Complex AnalysisSolving Problems in Multiply Connected DomainsApplied Complex Analysis with Partial Differential EquationsVisual Complex AnalysisCurrent Topics in Pure and Computational Complex AnalysisA Course in Complex AnalysisReal and Complex AnalysisLinear and Complex Analysis for ApplicationsIntroduction to Complex AnalysisHandbook of Complex AnalysisLinear and Complex AnalysisComplex AnalysisA Collection of Problems on Complex AnalysisComplex Analysis, Operators, and Related TopicsA First Course in Complex AnalysisA Course in Complex Analysis and Riemann SurfacesConferences on Complex AnalysisFunctions of a Complex VariableComplex Analysis with Vector Calculus

Combinatorial and Geometric Group Theory

The classical Grothendieck inequality is viewed as a statement about representations of functions of two variables over discrete domains by integrals of two-fold products of functions of one variable. An analogous statement is proved, concerning continuous functions of two variables over general topological domains. The main result is the construction of a continuous map Φ from $l^2(A)$ into $L^2(\Omega_A, \mathbb{P}_A)$, where A is a set, $\Omega_A = \{-1,1\}^A$, and $\mathbb{P}_A$ is the uniform probability measure on Ω_A.

Advances in Real and Complex Analysis with Applications

This radical approach to complex analysis replaces the standard calculational arguments with new geometric ones. Using several hundred diagrams this is a new visual approach to the topic.

Complex Analysis

This paper concerns unitary invariants for n-tuples $T:=(T_1,\ldots, T_n)$ of (not necessarily commuting) bounded linear operators on Hilbert spaces. The author introduces a notion of joint numerical radius and works out its basic properties. Multivariable versions of Berger's dilation theorem, Berger-Kato-Stampfli mapping theorem, and Schwarz's lemma from complex analysis are obtained. The author studies the joint (spatial) numerical range of T in connection with several unitary invariants for n-tuples of operators such as: right joint spectrum, joint numerical radius, euclidean operator radius, and joint spectral radius. He also proves an analogue of Toeplitz-Hausdorff theorem on the convexity of the spatial numerical range of an operator on a Hilbert space, for the joint numerical range of operators in the noncommutative analytic Toeplitz algebra F_n^∞.

A Complex Analysis Problem Book

Complex analysis is a cornerstone of mathematics, making it an essential element of any area of study in graduate mathematics. Schlag's treatment of the subject emphasizes the intuitive geometric underpinnings of elementary complex analysis that naturally lead to the theory of Riemann surfaces. The book begins with an exposition of the basic theory of holomorphic functions of one complex variable. The first two chapters constitute a fairly rapid, but comprehensive course in complex analysis. The third chapter is devoted to the study of harmonic functions on the disk and the half-plane, with an emphasis on the Dirichlet problem. Starting with the fourth chapter, the theory of Riemann surfaces is developed in some detail and with complete rigor. From the beginning, the geometric aspects are emphasized and classical topics such as elliptic functions and elliptic integrals are presented as illustrations of the abstract theory. The special role of compact Riemann surfaces is explained, and their connection with algebraic equations is established. The book concludes with three chapters devoted to three major results: the Hodge decomposition theorem, the Riemann-Roch theorem, and the uniformization theorem. These chapters present the core technical apparatus of Riemann surface theory at this level. This text is intended as a detailed, yet fast-paced intermediate introduction to those parts of the theory of one complex variable that seem most useful in other areas of mathematics, including geometric group theory, dynamics, algebraic geometry, number theory, and functional analysis. More than seventy figures serve to illustrate concepts and ideas, and the many problems at the end of each chapter give the reader ample opportunity for practice and independent study.

Geometric Complex Analysis - Proceedings Of The Third International Research Institute Of Mathematical Society Of Japan

Whenever two or more objects or entities—be they bubbles, vortices, black holes, magnets, colloidal particles, microorganisms, swimming bacteria, Brownian random walkers, airfoils, turbine blades, electrified drops, magnetized particles, dislocations, cracks, or heterogeneities in an elastic solid—interact in some ambient medium, they make holes in

that medium. Such holey regions with interacting entities are called multiply connected. This book describes a novel mathematical framework for solving problems in two-dimensional, multiply connected regions. The framework is built on a central theoretical concept: the prime function, whose significance for the applied sciences, especially for solving problems in multiply connected domains, has been missed until recent work by the author. This monograph is a one-of-a-kind treatise on the prime function associated with multiply connected domains and how to use it in applications. The book contains many results familiar in the simply connected, or single-entity, case that are generalized naturally to any number of entities, in many instances for the first time. Solving Problems in Multiply Connected Domains is aimed at applied and pure mathematicians, engineers, physicists, and other natural scientists; the framework it describes finds application in a diverse array of contexts. The book provides a rich source of project material for undergraduate and graduate courses in the applied sciences and could serve as a complement to standard texts on advanced calculus, potential theory, partial differential equations and complex analysis, and as a supplement to texts on applied mathematical methods in engineering and science.

Approximation, Complex Analysis, and Potential Theory

This volume grew out of two AMS conferences held at Columbia University (New York, NY) and the Stevens Institute of Technology (Hoboken, NJ) and presents articles on a wide variety of topics in group theory. Readers will find a variety of contributions, including a collection of over 170 open problems in combinatorial group theory, three excellent survey papers (on boundaries of hyperbolic groups, on fixed points of free group automorphisms, and on groups of automorphisms of compact Riemann surfaces), and several original research papers that represent the diversity of current trends in combinatorial and geometric group theory. The book is an excellent reference source for graduate students and research mathematicians interested in various aspects of group theory.

SPECIAL FUNCTIONS AND COMPLEX VARIABLES (ENGINEERING MATHEMATICS III)

Linear and Complex Analysis for Applications aims to unify various parts of mathematical analysis in an engaging manner and to provide a diverse and unusual collection of applications, both to other fields of mathematics and to physics and engineering. The book evolved from several of the author’s teaching experiences, his research in complex analysis in several variables, and many conversations with friends and colleagues. It has three primary goals: to develop enough linear analysis and complex variable theory to prepare students in engineering or applied mathematics for advanced work, to unify many distinct and seemingly isolated topics, to show mathematics as both interesting and useful, especially via the juxtaposition of examples and theorems. The book realizes these goals by beginning with reviews of Linear Algebra, Complex Numbers, and topics from Calculus III. As the topics are being reviewed, new material is inserted to help the

student develop skill in both computation and theory. The material on linear algebra includes infinite-dimensional examples arising from elementary calculus and differential equations. Line and surface integrals are computed both in the language of classical vector analysis and by using differential forms. Connections among the topics and applications appear throughout the book. The text weaves abstract mathematics, routine computational problems, and applications into a coherent whole, whose unifying theme is linear systems. It includes many unusual examples and contains more than 450 exercises.

Applied Complex Variables

This volume is the proceedings of a conference held at Ohio State University in May of 1999. Over sixty mathematicians from around the world participated in this conference and principal lectures were given by some of the most distinguished experts in the field. The proceedings volume contains fully refereed research articles from some of the principal speakers, including: Salah Baouendi (UCSD), David Barrett (Univ. Michigan), Bo Berndtsson (Goteborg), David Catlin (Purdue Univ.), Micheal Christ (Berkeley), John D'Angelo (Univ. Illinois), Xiaojun Huang (Rutgers), J. J. Kohn (Princeton), Y.-T. Siu (Harvard), and Emil Straube (Texas A & M).

Complex Analysis and Geometry

The contributions to this volume are devoted to a discussion of state-of-the-art research and treatment of problems of a wide spectrum of areas in complex analysis ranging from pure to applied and interdisciplinary mathematical research. Topics covered include: holomorphic approximation, hypercomplex analysis, special functions of complex variables, automorphic groups, zeros of the Riemann zeta function, Gaussian multiplicative chaos, non-constant frequency decompositions, minimal kernels, one-component inner functions, power moment problems, complex dynamics, biholomorphic cryptosystems, fermionic and bosonic operators. The book will appeal to graduate students and research mathematicians as well as to physicists, engineers, and scientists, whose work is related to the topics covered.

Complex Analysis and Dynamical Systems V

Hermann Weyl considered value distribution theory to be the greatest mathematical achievement of the first half of the 20th century. The present lectures show that this beautiful theory is still growing. An important tool is complex approximation and some of the lectures are devoted to this topic. Harmonic approximation started to flourish astonishingly rapidly towards the end of the 20th century, and the latest development, including approximation manifolds, are presented here. Since de Branges confirmed the Bieberbach conjecture, the primary problem in geometric function theory is to find

the precise value of the Bloch constant. After more than half a century without progress, a breakthrough was recently achieved and is presented. Other topics are also presented, including Jensen measures. A valuable introduction to currently active areas of complex analysis and potential theory. Can be read with profit by both students of analysis and research mathematicians.

Perspectives of Complex Analysis, Differential Geometry and Mathematical Physics

Based on many years of experience of the author Complex Analysis with Vector Calculus provides clear and condensed treatment of the subject. It is primarily intended to be used by undergraduate students of engineering and science as a part of a course in engineering mathematics, where they are introduced to complex variable theory, through conceptual development of analysis. The book also introduces vector algebra, step by step, with due emphasis on various operations on vector field and scalar fields. Especially, it introduces proof of vector identities by use of a new approach and includes many examples to clarify the ideas and familiarize students with various techniques of problem solving.

Introductory Complex Analysis

The Deligne-Simpson problem for zero index of rigidity / V.P. Rostov -- Theorems for extension on manifolds with almost complex structures / L.N. Apostolova, M.S. Marinov and K.P. Petrov -- The theorem on analytic representation on hypersurface with singularities / A.M. Kytmanov and S.G. Myslivets -- Pseudogroup structures on Spencer manifolds / S. Dimiev -- Type-changing transformations of Hurwitz pairs, quasiregular functions, and hyper Kahlerian holomorphic chains I / J. Lawrynowicz and L.M. Tovar -- Embedding of the moduli space of Riemann surfaces with Igeta structures into the Sato Grassmann manifold / Y. Hashimoto and K. Ohba -- On the quotient spaces of S2 x S2 under the natural action of subgroups of D4 / K. Kikuchi -- Existence of spin structures on cyclic branched covering spaces over four-manifolds / S. Nagami -- Length spectrum of geodesic spheres in rank one symmetric spaces / T. Adachi -- Grassmann geometry of 6-dimensional sphere, II / H. Hashimoto and K. Mashimo -- Hypersurfaces in Euclidean space which are one-parameter families of spheres / G. Ganchev and V. Mihova -- Hypersurfaces of conullity two in Euclidean space which are one-parameter systems of torses / G. Ganchev and V. Milousheva -- Real hypersurfaces of a Kaehler manifold (the sixteen classes) / G. Ganchev and M. Hristov -- Almost contact B-metric hypersurfaces of Kaehlerian manifolds with B-metric / M. Manev -- Projective formalism and some methods from algebraic geometry in the theory of gravitation / B.G. Dimitrov -- Geometry of manifolds and dark matter / I.B. Pestov -- Lagrangian fluid mechanics / S. Manoff -- Transformation of connectednesses / G. Zlatanov

Complex Analysis

The present book is meant as a text for a course on complex analysis at the advanced undergraduate level, or first-year graduate level. Somewhat more material has been included than can be covered at leisure in one term, to give opportunities for the instructor to exercise his taste, and lead the course in whatever direction strikes his fancy at the time. A large number of routine exercises are included for the more standard portions, and a few harder exercises of striking theoretical interest are also included, but may be omitted in courses addressed to less advanced students. In some sense, I think the classical German prewar texts were the best (Hurwitz-Courant, Knopp, Bieberbach, etc.) and I would recom mend to anyone to look through them. More recent texts have empha sized connections with real analysis, which is important, but at the cost of exhibiting succinctly and clearly what is peculiar about complex anal ysis: the power series expansion, the uniqueness of analytic continuation, and the calculus of residues. The systematic elementary development of formal and convergent power series was standard fare in the German texts, but only Cartan, in the more recent books, includes this material, which I think is quite essential, e. g. , for differential equations. I have written a short text, exhibiting these features, making it applicable to a wide variety of tastes. The book essentially decomposes into two parts.

Quasi-Linear Perturbations of Hamiltonian Klein-Gordon Equations on Spheres

This book discusses a variety of topics in mathematics and engineering as well as their applications, clearly explaining the mathematical concepts in the simplest possible way and illustrating them with a number of solved examples. The topics include real and complex analysis, special functions and analytic number theory, q-series, Ramanujan’s mathematics, fractional calculus, Clifford and harmonic analysis, graph theory, complex analysis, complex dynamical systems, complex function spaces and operator theory, geometric analysis of complex manifolds, geometric function theory, Riemannian surfaces, Teichmüller spaces and Kleinian groups, engineering applications of complex analytic methods, nonlinear analysis, inequality theory, potential theory, partial differential equations, numerical analysis , fixed-point theory, variational inequality, equilibrium problems, optimization problems, stability of functional equations, and mathematical physics. It includes papers presented at the 24th International Conference on Finite or Infinite Dimensional Complex Analysis and Applications (24ICFIDCAA), held at the Anand International College of Engineering, Jaipur, 22–26 August 2016. The book is a valuable resource for researchers in real and complex analysis.

Complex Analysis and Geometry

Functions of a Complex Variable provides all the material for a course on the theory of functions of a complex variable at the senior undergraduate and beginning graduate level. Also suitable for self-study, the book covers every topic essential to training students in complex analysis. It also incorporates special topics to enhance students’ understanding of the subject, laying the foundation for future studies in analysis, linear algebra, numerical analysis, geometry, number theory, physics,

thermodynamics, or electrical engineering. After introducing the basic concepts of complex numbers and their geometrical representation, the text describes analytic functions, power series and elementary functions, the conformal representation of an analytic function, special transformations, and complex integration. It next discusses zeros of an analytic function, classification of singularities, and singularity at the point of infinity; residue theory, principle of argument, Rouché's theorem, and the location of zeros of complex polynomial equations; and calculus of residues, emphasizing the techniques of definite integrals by contour integration. The authors then explain uniform convergence of sequences and series involving Parseval, Schwarz, and Poisson formulas. They also present harmonic functions and mappings, inverse mappings, and univalent functions as well as analytic continuation.

Complex Analysis

Geometric Function Theory is that part of Complex Analysis which covers the theory of conformal and quasiconformal mappings. Beginning with the classical Riemann mapping theorem, there is a lot of existence theorems for canonical conformal mappings. On the other side there is an extensive theory of qualitative properties of conformal and quasiconformal mappings, concerning mainly a prior estimates, so called distortion theorems (including the Bieberbach conjecture with the proof of the Branges). Here a starting point was the classical Scharz lemma, and then Koebe's distortion theorem. There are several connections to mathematical physics, because of the relations to potential theory (in the plane). The Handbook of Geometric Function Theory contains also an article about constructive methods and further a Bibliography including applications eg: to electroxtatic problems, heat conduction, potential flows (in the plane). · A collection of independent survey articles in the field of GeometricFunction Theory · Existence theorems and qualitative properties of conformal and quasiconformal mappings · A bibliography, including many hints to applications in electrostatics, heat conduction, potential flows (in the plane).

The Grothendieck Inequality Revisited

Introduction to Complex AnalysisBy Michael Taylor

A First Course in Complex Analysis with Applications

Shorter version of Markushevich's Theory of Functions of a Complex Variable, appropriate for advanced undergraduate and graduate courses in complex analysis. More than 300 problems, some with hints and answers. 1967 edition.

Complex Analysis

This reader-friendly book presents traditional material using a modern approach that invites the use of technology. Abundant exercises, examples, and graphics make it a comprehensive and visually appealing resource. Chapter topics include complex numbers and functions, analytic functions, complex integration, complex series, residues: applications and theory, conformal mapping, partial differential equations: methods and applications, transform methods, and partial differential equations in polar and spherical coordinates. For engineers and physicists in need of a quick reference tool.

Unitary Invariants in Multivariable Operator Theory

This unusual and lively textbook offers a clear and intuitive approach to the classical and beautiful theory of complex variables. With very little dependence on advanced concepts from several-variable calculus and topology, the text focuses on the authentic complex-variable ideas and techniques. Accessible to students at their early stages of mathematical study, this full first year course in complex analysis offers new and interesting motivations for classical results and introduces related topics stressing motivation and technique. Numerous illustrations, examples, and now 300 exercises, enrich the text. Students who master this textbook will emerge with an excellent grounding in complex analysis, and a solid understanding of its wide applicability.

Complex Analysis

Fundamentals of analytic function theory — plus lucid exposition of 5 important applications: potential theory, ordinary differential equations, Fourier transforms, Laplace transforms, and asymptotic expansions. Includes 66 figures.

Advancements in Complex Analysis

Solving Problems in Multiply Connected Domains

This volume is devoted to some topical problems and various applications of operator theory and its interplay with modern complex analysis. 30 carefully selected surveys and research papers are united by the "operator theoretic ideology" and systematic use of modern function theoretical techniques.

Applied Complex Analysis with Partial Differential Equations

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 Autonomo de Valencia, Spain.

Visual Complex Analysis

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.

Current Topics in Pure and Computational Complex Analysis

This second edition presents a collection of exercises on the theory of analytic functions, including completed and detailed solutions. It introduces students to various applications and aspects of the theory of analytic functions not always touched on in a first course, while also addressing topics of interest to electrical engineering students (e.g., the realization of rational functions and its connections to the theory of linear systems and state space representations of such systems). It provides examples of important Hilbert spaces of analytic functions (in particular the Hardy space and the Fock space), and also includes a section reviewing essential aspects of topology, functional analysis and Lebesgue integration. Benefits of the 2nd edition Rational functions are now covered in a separate chapter. Further, the section on conformal mappings has been expanded.

A Course in Complex Analysis

The papers in this wide-ranging collection report on the results of investigations from a number of linked disciplines, including complex algebraic geometry, complex analytic geometry of manifolds and spaces, and complex differential geometry.

Real and Complex Analysis

Linear and Complex Analysis for Applications

Presents Real & Complex Analysis Together Using a Unified Approach A two-semester course in analysis at the advanced undergraduate or first-year graduate level Unlike other undergraduate-level texts, Real and Complex Analysis develops both the real and complex theory together. It takes a unified, elegant approach to the theory that is consistent with the recommendations of the MAA's 2004 Curriculum Guide. By presenting real and complex analysis together, the authors illustrate the connections and differences between these two branches of analysis right from the beginning. This combined development also allows for a more streamlined approach to real and complex function theory. Enhanced by more than 1,000 exercises, the text covers all the essential topics usually found in separate treatments of real analysis and complex analysis. Ancillary materials are available on the book's website. This book offers a unique, comprehensive presentation of both real and complex analysis. Consequently, students will no longer have to use two separate textbooks—one for real function theory and one for complex function theory.

Introduction to Complex Analysis

This carefully written textbook is an introduction to the beautiful concepts and results of complex analysis. It is intended for international bachelor and master programmes in Germany and throughout Europe; in the Anglo-American system of university education the content corresponds to a beginning graduate course. The book presents the fundamental results and methods of complex analysis and applies them to a study of elementary and non-elementary functions (elliptic functions, Gamma- and Zeta function including a proof of the prime number theorem) and – a new feature in this context! – to exhibiting basic facts in the theory of several complex variables. Part of the book is a translation of the authors' German text "Einführung in die komplexe Analysis"; some material was added from the by now almost "classical" text "Funktionentheorie" written by the authors, and a few paragraphs were newly written for special use in a master's programme.

Handbook of Complex Analysis

This thoroughly revised book, now in its third edition, continues to discuss two important topics—special functions and complex variables. Chapters have been rearranged keeping in view the current syllabi of the universities. The book analyzes special functions, Legendre's equation and function, and Bessel's function. It explains how to solve Cauchy equations, differential equation with variable coefficients and Frobenius of solving differential equation at a regular singular point. Besides, the text also explains the notions of limit, continuity and differentiability by giving a thorough grounding on analytic functions and their relations with harmonic functions. In addition, the book introduces the exponential function of a complex variable, and with the help of this function, defines trigonometric and hyperbolic functions and explains their properties. While discussing different mathematical concepts, the book discusses a number of theorems such as Cauchy's integral theorem for the integration of a complex variable, Taylor's theorem for the analysis of complex power series, the residue theorem for evaluation of residues, the argument principle and Rouche's theorem for the determination of the number of zeroes of complex polynomials. Finally, the book gives a thorough exposition of conformal mappings and develops the theory of bilinear transformation.

Linear and Complex Analysis

The book contains 13 articles, some of which are survey articles and others research papers. Written by eminent mathematicians, these articles were presented at the International Workshop on Complex Analysis and Its Applications held at Walchand College of Engineering, Sangli. All the contributing authors are actively engaged in research fields related to the topic of the book. The workshop offered a comprehensive exposition of the recent developments in geometric functions theory, planar harmonic mappings, entire and meromorphic functions and their applications, both theoretical and computational. The recent developments in complex analysis and its applications play a crucial role in research in many disciplines.

Complex Analysis

This volume contains the proceedings of the Fifth International Conference on Complex Analysis and Dynamical Systems, held from May 22-27, 2011, in Akko (Acre), Israel. The papers cover a wide variety of topics in complex analysis and partial differential

A Collection of Problems on Complex Analysis

The Hamiltonian $\int X(|\partial tu|2+|\nabla u|2+m2|u|2)dx$, defined on functions on $R\times X$, where X is a compact manifold, has critical points which are solutions of the linear Klein-Gordon equation. The author considers perturbations of this Hamiltonian, given

by polynomial expressions depending on first order derivatives of u. The associated PDE is then a quasi-linear Klein-Gordon equation. The author shows that, when X is the sphere, and when the mass parameter m is outside an exceptional subset of zero measure, smooth Cauchy data of small size ϵ give rise to almost global solutions, i.e. solutions defined on a time interval of length cNϵ−N for any N. Previous results were limited either to the semi-linear case (when the perturbation of the Hamiltonian depends only on u) or to the one dimensional problem. The proof is based on a quasi-linear version of the Birkhoff normal forms method, relying on convenient generalizations of para-differential calculus.

Complex Analysis, Operators, and Related Topics

The present book is meant as a text for a course on complex analysis at the advanced undergraduate level, or first-year graduate level. The first half, more or less, can be used for a one-semester course addressed to undergraduates. The second half can be used for a second semester, at either level. Somewhat more material has been included than can be covered at leisure in one or two terms, to give opportunities for the instructor to exercise individual taste, and to lead the course in whatever directions strikes the instructor's fancy at the time as well as extra read ing material for students on their own. A large number of routine exer cises are included for the more standard portions, and a few harder exercises of striking theoretical interest are also included, but may be omitted in courses addressed to less advanced students. In some sense, I think the classical German prewar texts were the best (Hurwitz-Courant, Knopp, Bieberbach, etc.) and I would recommend to anyone to look through them. More recent texts have emphasized connections with real analysis, which is important, but at the cost of exhibiting succinctly and clearly what is peculiar about complex analysis: the power series expansion, the uniqueness of analytic continuation, and the calculus of residues.

A First Course in Complex Analysis

A Course in Complex Analysis and Riemann Surfaces

This user-friendly textbook follows Weierstrass' approach to offer a self-contained introduction to complex analysis.

Conferences on Complex Analysis

A selection of some important topics in complex analysis, intended as a sequel to the author's Classical complex analysis (see preceding entry). The five chapters are devoted to analytic continuation; conformal mappings, univalent functions, and nonconformal mappings; entire function; meromorphic fu

Functions of a Complex Variable

Over 1500 problems on theory of functions of the complex variable; coverage of nearly every branch of classical function theory. Topics include conformal mappings, integrals and power series, Laurent series, parametric integrals, integrals of the Cauchy type, analytic continuation, Riemann surfaces, much more. Answers and solutions at end of text. Bibliographical references. 1965 edition.

Complex Analysis with Vector Calculus

This book contains the proceedings of the international workshop on global sustainability held in Benevento, Italy, on February 2014. The proceedings consist of 10 invited and contributed papers related to the broad range of aspects of sustainability in a global scenario including food safety, monitoring, soil mapping, healthcare, territorial intelligence, local food production, greenhouse gas emissions, renewable energy sources, integrated development, sustainability strategies, “smart” bio-territories, replete with case studies. This book aims to provide the perspective of the diverse problems in global sustainability, and the many disciplines that could work together in achieving it. The workshop itself led to the signing of international agreements for the protection and enhancement of endangered species in the area of North Africa.