







??????? Claire L. ?Ying C. ????????????????????? Ying C. ?? ?Encore 15 kilos ??????????? Linda  
????????? ?????????????? ?????????????????? ?????400?? ?????????????????????? -----  
????????????? ?????????????????????? ?????????????????????????????????? ?????????????????????? ?????????????  
??  
??K????????????????  
??  
??  
??  
????????????,?????????????????Lebesgue?;????????????(????????,?????,Banach???Hilbert?);????????????  
?????.

The formulation, analysis, and re-evaluation of mathematical models in population biology has become a valuable source of insight to mathematicians and biologists alike. This book presents an overview and selected sample of these results and ideas, organized by biological theme rather than mathematical concept, with an emphasis on helping the reader develop appropriate modeling skills through use of well-chosen and varied examples. Part I starts with unstructured single species population models, particularly in the framework of continuous time models, then adding the most rudimentary stage structure with variable stage duration. The theme of stage structure in an age-dependent context is developed in Part II, covering demographic concepts, such as life expectation and variance of life length, and their dynamic consequences. In Part III, the author considers the dynamic interplay of host and parasite populations, i.e., the epidemics and endemics of infectious diseases. The theme of stage structure continues here in the analysis of different stages of infection and of age-structure that is instrumental in optimizing vaccination strategies. Each section concludes with exercises, some with solutions, and suggestions for further study. The level of mathematics is relatively modest; a "toolbox" provides a summary of required results in differential equations, integration, and integral equations. In addition, a selection of Maple worksheets is provided. The book provides an authoritative tour through a dazzling ensemble of topics and is both an ideal introduction to the subject and reference for researchers.

For one- or two-semester junior orsenior level courses in Advanced Calculus, Analysis I, or Real Analysis. This title is part of the Pearson Modern Classicsseries. This text prepares students for future courses that use analytic ideas, such as real and complex analysis, partial and ordinary differential equations, numerical analysis, fluid mechanics, and differential geometry. This book is designed to challenge advanced students while encouraging and helping weaker students. Offering readability, practicality and flexibility, Wade presents fundamental theorems and ideas from a practical viewpoint, showing students the motivation behind the mathematics and enabling them to construct their own proofs.

????:Differential geometry of curves and surfaces  
???-L-??  
??  
??  
??.....

???-????????????????,????????????,???1948?????????

This new approach to real analysis stresses the use of the subject with respect to applications, i.e., how the principles and theory of real analysis can be applied in a variety of settings in subjects ranging from Fourier series and polynomial approximation to discrete dynamical systems and nonlinear optimization. Users will be prepared for more intensive work in each topic through these applications and their accompanying exercises. This book is appropriate for math enthusiasts with a prior knowledge of both calculus and linear algebra.

Master the fundamentals of correspondence analysis with this illuminating

resource An Introduction to Correspondence Analysis assists researchers in improving their familiarity with the concepts, terminology, and application of several variants of correspondence analysis. The accomplished academics and authors deliver a comprehensive and insightful treatment of the fundamentals of correspondence analysis, including the statistical and visual aspects of the subject. Written in three parts, the book begins by offering readers a description of two variants of correspondence analysis that can be applied to two-way contingency tables for nominal categories of variables. Part Two shifts the discussion to categories of ordinal variables and demonstrates how the ordered structure of these variables can be incorporated into a correspondence analysis. Part Three describes the analysis of multiple nominal categorical variables, including both multiple correspondence analysis and multi-way correspondence analysis. Readers will benefit from explanations of a wide variety of specific topics, for example: Simple correspondence analysis, including how to reduce multidimensional space, measuring symmetric associations with the Pearson Ratio, constructing low-dimensional displays, and detecting statistically significant points Non-symmetrical correspondence analysis, including quantifying asymmetric associations Simple ordinal correspondence analysis, including how to decompose the Pearson Residual for ordinal variables Multiple correspondence analysis, including crisp coding and the indicator matrix, the Burt Matrix, and stacking Multi-way correspondence analysis, including symmetric multi-way analysis Perfect for researchers who seek to improve their understanding of key concepts in the graphical analysis of categorical data, An Introduction to Correspondence Analysis will also assist readers already familiar with correspondence analysis who wish to review the theoretical and foundational underpinnings of crucial concepts.

Foundations of Analysis is an excellent new text for undergraduate students in real analysis. More than other texts in the subject, it is clear, concise and to the point, without extra bells and whistles. It also has many good exercises that help illustrate the material. My students were very satisfied with it. --Nat Smale, University of Utah I have taught our Foundations of Analysis course (based on Joe Taylor's book) several times recently, and have enjoyed doing so. The book is well-written, clear, and concise, and supplies the students with very good introductory discussions of the various topics, correct and well-thought-out proofs, and appropriate, helpful examples. The end-of-chapter problems supplement the body of the text very well (and range nicely from simple exercises to really challenging problems). --Robert Brooks, University of Utah An excellent text for students whose future will include contact with mathematical analysis, whatever their discipline might be. It is content-comprehensive and pedagogically sound. There are exercises adequate to guarantee thorough grounding in the basic facts, and problems to initiate thought and gain experience in proofs and counterexamples. Moreover, the text takes the reader near enough to the frontier of analysis at the calculus level that the teacher can challenge the students with

questions that are at the ragged edge of research for undergraduate students. I like it a lot. --Don Tucker, University of Utah My students appreciate the concise style of the book and the many helpful examples. --W.M. McGovern, University of Washington Analysis plays a crucial role in the undergraduate curriculum.

Building upon the familiar notions of calculus, analysis introduces the depth and rigor characteristic of higher mathematics courses. Foundations of Analysis has two main goals. The first is to develop in students the mathematical maturity and sophistication they will need as they move through the upper division curriculum. The second is to present a rigorous development of both single and several variable calculus, beginning with a study of the properties of the real number system. The presentation is both thorough and concise, with simple, straightforward explanations. The exercises differ widely in level of abstraction and level of difficulty. They vary from the simple to the quite difficult and from the computational to the theoretical. Each section contains a number of examples designed to illustrate the material in the section and to teach students how to approach the exercises for that section. The list of topics covered is rather standard, although the treatment of some of them is not. The several variable material makes full use of the power of linear algebra, particularly in the treatment of the differential of a function as the best affine approximation to the function at a given point. The text includes a review of several linear algebra topics in preparation for this material. In the final chapter, vector calculus is presented from a modern point of view, using differential forms to give a unified treatment of the major theorems relating derivatives and integrals: Green's, Gauss's, and Stokes's Theorems. At appropriate points, abstract metric spaces, topological spaces, inner product spaces, and normed linear spaces are introduced, but only as asides. That is, the course is grounded in the concrete world of Euclidean space, but the students are made aware that there are more exotic worlds in which the concepts they are learning may be studied.

The absence of training signals from many kinds of transmission necessitates the widespread use of blind equalization and system identification. There have been many algorithms developed for these purposes, working with one- or two-dimensional signals and with single-input single-output or multiple-input multiple-output, real or complex systems. It is now time for a unified treatment of this subject, pointing out the common characteristics of these algorithms as well as learning from their different perspectives. "Blind Equalization and System Identification" provides such a unified treatment presenting theory, performance analysis, simulation, implementation and applications. This is a textbook for graduate courses in discrete-time random processes, statistical signal processing, and blind equalization and system identification. It contains material which will also interest researchers and engineers working in digital communications, source separation, speech processing, and other, similar applications.

An Invitation to Real Analysis is written both as a stepping stone to higher

calculus and analysis courses, and as foundation for deeper reasoning in applied mathematics. This book also provides a broader foundation in real analysis than is typical for future teachers of secondary mathematics. In connection with this, within the chapters, students are pointed to numerous articles from The College Mathematics Journal and The American Mathematical Monthly. These articles are inviting in their level of exposition and their wide-ranging content. Axioms are presented with an emphasis on the distinguishing characteristics that new ones bring, culminating with the axioms that define the reals. Set theory is another theme found in this book, beginning with what students are familiar with from basic calculus. This theme runs underneath the rigorous development of functions, sequences, and series, and then ends with a chapter on transfinite cardinal numbers and with chapters on basic point-set topology. Differentiation and integration are developed with the standard level of rigor, but always with the goal of forming a firm foundation for the student who desires to pursue deeper study. A historical theme interweaves throughout the book, with many quotes and accounts of interest to all readers. Over 600 exercises and dozens of figures help the learning process. Several topics (continued fractions, for example), are included in the appendices as enrichment material. An annotated bibliography is included.

This concise text provides a gentle introduction to functional analysis. Chapters cover essential topics such as special spaces, normed spaces, linear functionals, and Hilbert spaces. Numerous examples and counterexamples aid in the understanding of key concepts, while exercises at the end of each chapter provide ample opportunities for practice with the material. Proofs of theorems such as the Uniform Boundedness Theorem, the Open Mapping Theorem, and the Closed Graph Theorem are worked through step-by-step, providing an accessible avenue to understanding these important results. The prerequisites for this book are linear algebra and elementary real analysis, with two introductory chapters providing an overview of material necessary for the subsequent text. Functional Analysis offers an elementary approach ideal for the upper-undergraduate or beginning graduate student. Primarily intended for a one-semester introductory course, this text is also a perfect resource for independent study or as the basis for a reading course.

??

This book provides a broadly based, theoretical monograph on the Walsh System, a system that is the simplest non-trivial model for harmonic analysis and shares many properties with the trigonometric system. It gives a thorough introduction to foundations of Walsh-Fourier analysis introducing the main techniques and fundamental problems in a way that makes the literature accessible. It also shows how the theory of Walsh-Fourier analysis relates to other aspects of harmonic analysis. The book will be of interest to postgraduate students in pure and applied mathematics, and those studying numerical analysis and computational mathematics.

An Introduction to Analysis Math Classics

This rigorous textbook is intended for a year-long analysis or advanced calculus course for advanced undergraduate or beginning graduate students. Starting with detailed, slow-paced





focus on analysis. For those interested in learning more about analysis.

Fundamentals of Mathematical Analysis explores real and functional analysis with a substantial component on topology. The three leading chapters furnish background information on the real and complex number fields, a concise introduction to set theory, and a rigorous treatment of vector spaces. Fundamentals of Mathematical Analysis is an extensive study of metric spaces, including the core topics of completeness, compactness and function spaces, with a good number of applications. The later chapters consist of an introduction to general topology, a classical treatment of Banach and Hilbert spaces, the elements of operator theory, and a deep account of measure and integration theories. Several courses can be based on the book. This book is suitable for a two-semester course on analysis, and material can be chosen to design one-semester courses on topology or real analysis. It is designed as an accessible classical introduction to the subject and aims to achieve excellent breadth and depth and contains an abundance of examples and exercises. The topics are carefully sequenced, the proofs are detailed, and the writing style is clear and concise. The only prerequisites assumed are a thorough understanding of undergraduate real analysis and linear algebra, and a degree of mathematical maturity.

[Copyright: 83d78453d3882ee50cc2d02d048ddcc3](#)