Introduction To Algebraic Geometry Stanford University

GRANT BECK

Analysis and Algebra on Differentiable Manifolds: A Workbook for Students and Teachers Springer Science & Business Media
This short and readable introduction to algebraic geometry will be ideal for all undergraduate mathematicians coming to the subject for the first time.
The Topology of Fibre Bundles Springer Science & Business Media
An introductory textbook suitable for use in a course or for self-study, featuring broad coverage of the subject and a readable exposition, with many examples and exercises.
Vectors, Matrices, and Least Squares Cambridge University Press
A fundamental reason for using formal methods in the philosophy of science is the desirability of having a fixed frame of reference that may be used to organize the variety of doctrines at hand. This book—Patrick Suppes's major work, and the result of several decades of research—examines how set-theoretical methods provide such a framework, covering issues of axiomatic method, representation, invariance, probability, mechanics, and language, including research on brain-wave representations of words and sentences. This is a groundbreaking, essential text from a distinguished philosopher.
Introduction to Applied Linear Algebra American Mathematical Society
This monograph is devoted to a completely new approach to geometric problems arising in the study of random fields. The groundbreaking material in Part III, for which the background is carefully prepared in Parts I and II, is of both theoretical and practical importance, and striking in the way in which problems arising in geometry and probability are beautifully intertwined. "Random Fields and Geometry" will be useful for probabilists and statisticians, and for theoretical and applied mathematicians who wish to learn about new relationships between geometry and probability. It will be helpful for graduate students in a classroom setting, or for self-study. Finally, this text will serve as a basic reference for all those interested in the companion volume of the applications of the theory.
3264 and All That Cambridge University Press
This book is the second part of the new edition of Advanced Modern Algebra (the first part published as Graduate Studies in Mathematics, Volume 165). Compared to the previous edition, the material has been significantly reorganized and many sections have been rewritten. The book presents many topics mentioned in the first part in greater depth and in more detail. The five chapters of the book are devoted to group theory, representation theory, homological algebra, categories, and commutative algebra, respectively. The book can be used as a text for a second abstract algebra graduate course, as a source of additional material to a first abstract algebra graduate course, or for self-study.
Springer Science & Business Media
Linear algebra is the study of vector spaces and the linear maps between them. It underlies much of modern mathematics and is widely used in applications. A (Terse) Introduction to Linear Algebra is a concise presentation of the core material of the subject--those elements of linear algebra that every mathematician, and everyone who uses mathematics, should know. It goes from the notion of a finite-dimensional vector space to the canonical forms of linear operators and their matrices, and covers along the way such key topics as: systems of linear equations, linear operators and matrices, determinants, duality, and the spectral theory of operators on inner-product spaces. The last chapter offers a selection of additional topics indicating directions in which the core material can be applied. The Appendix provides all the relevant background material. Written for students with some mathematical maturity and an interest in abstraction and formal reasoning, the book is self-contained and is appropriate for an advanced undergraduate course in linear algebra.
Weyl Group Multiple Dirichlet Series Springer Science & Business Media
Now in its second edition, this book focuses on practical algorithms for mining data from even the largest datasets.
Type A Combinatorial Theory (AM-175) American Mathematical Soc.
A comprehensive introduction to the tools, techniques and applications of convex optimization.
A Concise Introduction to Algebraic Varieties Cambridge University Press
Foundations of Algebraic Geometry. --; 29Hassell Street Press
Foundations of Algebraic Geometry. --; 29 Courier Corporation
From the ancient origins of algebraic geometry in the solution of polynomial equations, through the triumphs of algebraic geometry during the last two cen turies, intersection theory has played a central role. Since its role in founda tional crises has been no less prominent, the lack of a complete modern treatise on intersection theory has been something of an embarrassment. The aim of this book is to develop the foundations of intersection theory, and to indicate the range of classical and modern applications. Although a comprehensive his tory of this vast subject is not attempted, we have tried to point out some of the striking early appearances of the ideas of intersection theory. Recent improvements in our understanding not only yield a stronger and more useful theory than previously available, but also make it possible to devel op the subject from the beginning with fewer prerequisites from algebra and algebraic geometry. It is hoped that the basic text can be read by one equipped with a first course in algebraic geometry, with occasional use of the two appen dices. Some of the examples, and a few of the later sections, require more spe cialized knowledge. The text is designed so that one who understands the con structions and grants the main theorems of the first six chapters can read other chapters separately. Frequent parenthetical references to previous sections are included for such readers. The summaries which begin each chapter should fa cilitate use as a reference.
An Introduction Cambridge University Press
In the twenty-first century, everyone can benefit from being able to think mathematically. This is not the same as "doing math." The latter usually involves the application of formulas, procedures, and symbolic manipulations; mathematical thinking is a powerful way of thinking about things in the world -- logically, analytically, quantitatively, and with precision. It is not a natural way of thinking, but it can be learned.Mathematicians, scientists, and engineers need to "do math," and it takes many years of college-level education to learn all that is required. Mathematical thinking is valuable to everyone, and can be mastered in about six weeks by anyone who has completed high school mathematics. Mathematical thinking does not have to be about mathematics at all, but parts of mathematics provide the ideal target domain to learn how to think that way, and that is the approach taken by this short but valuable book.The book is written primarily for first and second year students of science, technology, engineering, and mathematics (STEM) at colleges and universities, and for high school students intending to study a STEM subject at university. Many students encounter difficulty going from high school math to college-level mathematics. Even if they did well at math in school, most are knocked off course for a while by the shift in emphasis, from the K-12 focus on mastering procedures to the "mathematical thinking" characteristic of much university mathematics. Though the majority survive the transition, many do not. To help them make the shift, colleges and universities often have a "transition course." This book could serve as a textbook or a supplementary source for such a course.Because of the widespread applicability of mathematical thinking, however, the book has been kept short and written in an engaging style, to make it accessible to anyone who seeks to extend and improve their analytic thinking skills. Going beyond a basic grasp of analytic thinking that everyone can benefit from, the STEM student who truly masters mathematical thinking will find that college-level mathematics goes from being confusing, frustrating, and at times seemingly impossible, to making sense and being hard but doable.Dr. Keith Devlin is a professional mathematician at Stanford University and the author of 31 previous books and over 80 research papers. His books have earned him many awards, including the Pythagoras Prize, the Carl Sagan Award, and the Joint Policy Board for Mathematics Communications Award. He is known to millions of NPR listeners

as "the Math Guy" on Weekend Edition with Scott Simon. He writes a popular monthly blog "Devlin's Angle" for the Mathematical Association of America, another blog under the name "profkeithdevlin", and also blogs on various topics for the Huffington Post.

A (terse) Introduction to Linear Algebra Cambridge University Press

Over 300 unusual problems, ranging from easy to difficult, involving equations and inequalities, Diophantine equations, number theory, quadratic equations, logarithms, more. Detailed solutions, as well as brief answers, for all problems are provided.

Reinforcement Learning, second edition Brendan Kelly Pub

Introduction to vector algebra in the plane; circles and coaxial systems; mappings of the Euclidean plane; similitudes, isometries, Moebius transformations, much more. Includes over 500 exercises.

Topology and Geometry Springer Science & Business Media

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Homotopical Algebraic Geometry II: Geometric Stacks and Applications American Mathematical Soc.

Translation of the French Edition

Introduction to Mathematical Thinking Springer Science & Business Media

A famous Swiss professor gave a student's course in Basel on Riemann surfaces. After a couple of lectures, a student asked him, "Professor, you have as yet not given an exact de nition of a Riemann surface." The professor answered, "With Riemann surfaces, the main thing is to UNDERSTAND them, not to de ne them." The student's objection was reasonable. From a formal viewpoint, it is of course necessary to start as soon as possible with strict de nitions, but the professor's - swer also has a substantial background. The pure de nition of a Riemann surface— as a complex 1-dimensional complex analytic manifold—contributes little to a true understanding. It takes a long time to really be familiar with what a Riemann s- face is. This example is typical for the objects of global analysis—manifolds with str- tures. There are complex concrete de nitions but these do not automatically explain what they really are, what we can do with them, which operations they really admit, how rigid they are. Hence, there arises the natural question—how to attain a deeper understanding? One well-known way to gain an understanding is through underpinning the d- nitions, theorems and constructions with hierarchies of examples, counterexamples and exercises. Their choice, construction and logical order is for any teacher in global analysis an interesting, important and fun creating task.

Based on a Series of Lectures given at the Mathematisches Institut der Universität Hamburg American Mathematical Soc.

A Concise Introduction to Algebraic Varieties is designed for a one-term introductory course on algebraic varieties over an algebraically closed field, and it provides a solid basis for a course on schemes and cohomology or on specialized topics, such as toric varieties and moduli spaces of curves. The book balances generality and accessibility by presenting local and global concepts, such as nonsingularity, normality, and completeness using the language of atlases, an approach that is most commonly associated with differential topology. The book concludes with a discussion of the Riemann-Roch theorem, the Brill-Noether theorem, and applications. The prerequisites for the book are a strong undergraduate algebra course and a working familiarity with basic point-set topology. A course in graduate algebra is helpful but not required. The book includes appendices presenting useful background in complex analytic topology and commutative algebra and provides plentiful examples and exercises that help build intuition and familiarity with algebraic varieties.

John Wiley & Sons

This is the second part of a series of papers called ""HAG"", devoted to developing the foundations of homotopical algebraic geometry. The authors start by defining and studying generalizations of standard notions of linear algebra in an abstract monoidal model category, such as derivations, etale and smooth morphisms, flat and projective modules, etc. They then use their theory of stacks over model categories to define a general notion of geometric stack over a base symmetric monoidal model category C, and prove that this notion satisfies the expected properties.

Mining of Massive Datasets Springer Nature

Grothendieck's beautiful theory of schemes permeates modern algebraic geometry and underlies its applications to number theory, physics, and applied mathematics. This simple account of that theory emphasizes and explains the universal geometric concepts behind the definitions. In the book, concepts are illustrated with fundamental examples, and explicit calculations show how the constructions of scheme theory are carried out in practice.

Motives Hassell Street Press

Algebraic Topology is an introductory textbook based on a class for advanced high-school students at the Stanford University Mathematics Camp (SUMaC) that the authors have taught for many years. Each chapter, or lecture, corresponds to one day of class at SUMaC. The book begins with the preliminaries needed for the formal definition of a surface. Other topics covered in the book include the classification of surfaces, group theory, the fundamental group, and homology. This book assumes no background in abstract algebra or real analysis, and the material from those subjects is presented as needed in the text. This makes the book readable to undergraduates or high-school students who do not have the background typically assumed in an algebraic topology book or class. The book contains many examples and exercises, allowing it to be used for both self-study and for an introductory undergraduate topology course.