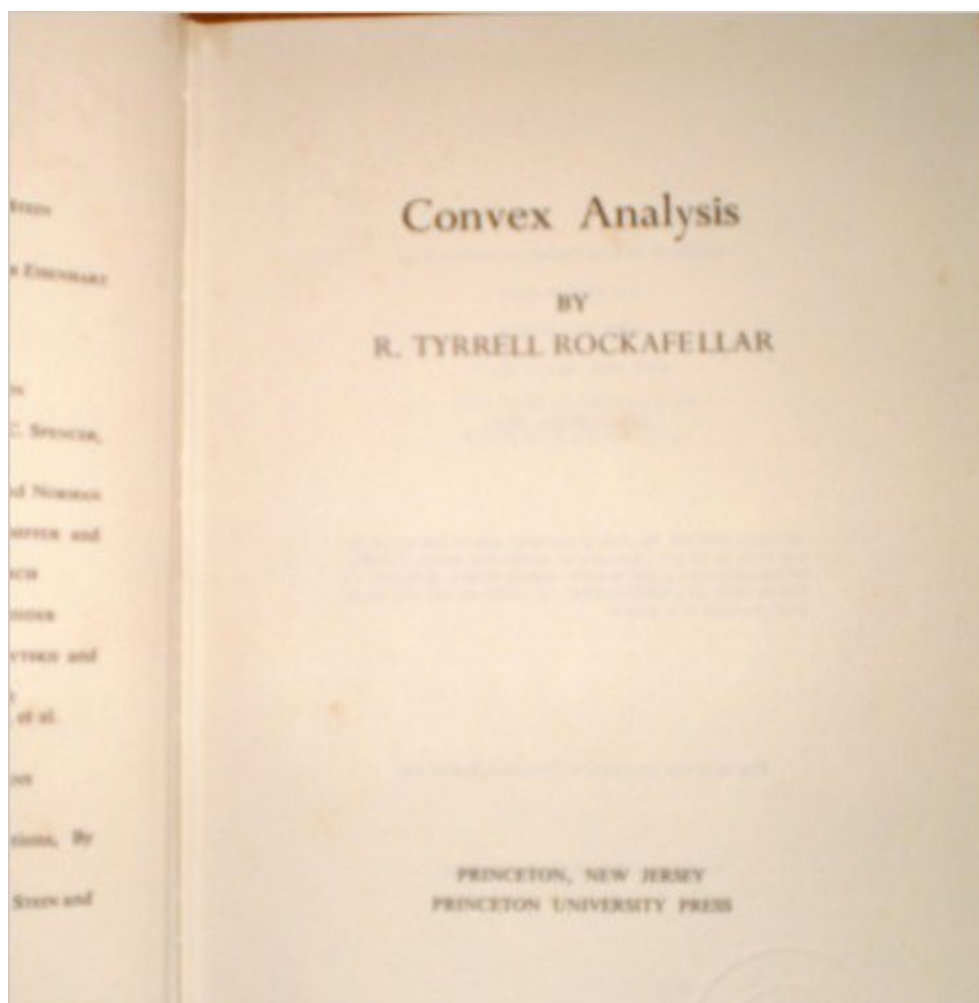


The book was found

# Convex Analysis (Princeton Landmarks In Mathematics And Physics)



## Synopsis

Available for the first time in paperback, R. Tyrrell Rockafellar's classic study presents readers with a coherent branch of nonlinear mathematical analysis that is especially suited to the study of optimization problems. Rockafellar's theory differs from classical analysis in that differentiability assumptions are replaced by convexity assumptions. The topics treated in this volume include: systems of inequalities, the minimum or maximum of a convex function over a convex set, Lagrange multipliers, minimax theorems and duality, as well as basic results about the structure of convex sets and the continuity and differentiability of convex functions and saddle- functions. This book has firmly established a new and vital area not only for pure mathematics but also for applications to economics and engineering. A sound knowledge of linear algebra and introductory real analysis should provide readers with sufficient background for this book. There is also a guide for the reader who may be using the book as an introduction, indicating which parts are essential and which may be skipped on a first reading.

## Book Information

Series: Princeton Landmarks in Mathematics and Physics (Book 28)

Hardcover: 472 pages

Publisher: Princeton University Press (February 21, 1970)

Language: English

ISBN-10: 0691080690

ISBN-13: 978-0691080697

Product Dimensions: 1.2 x 6.5 x 9.5 inches

Shipping Weight: 1.8 pounds

Average Customer Review: 4.1 out of 5 stars [See all reviews](#) (8 customer reviews)

Best Sellers Rank: #1,644,753 in Books (See Top 100 in Books) #243 in [Books > Science & Math > Mathematics > Applied > Linear Programming](#) #1365 in [Books > Science & Math > Mathematics > Mathematical Analysis](#)

## Customer Reviews

In a nutshell, an exceptional book, ideal for use as a reference (completeness and organization stands out), but also excellent for self-studying too! In fact, the last part came as a pleasant surprise to me. PhD Candidates conducting theoretical research could definitely learn a great deal about writing elegant and good math from this book. You just need to understand that a) you would rather have previous exposition to abstract mathematics (otherwise I doubt it is fit for you), b) The first few

sections quickly introduce you to convex analysis, but the book is huge and it is extremely ambitious to try to read it from cover to cover.c) The book is about convex ANALYSIS, NOT CONVEX GEOMETRY. It (intentionally) does not focus on the geometric interpretation of convexity and for a good reason. Many convex settings involve multiple dimensions (e.g. thousands for convex optimization problems). A geometric account is more intuitive but does not safely and readily extend to multiple dimensions, where intuition is lost or becomes error prone. That is where analysis shines, as it abstracts the geometric intuition into algebraic relations and properties. So don't expect to find fancy figures and illustrations (it has none).d) The book contains theoretical results pertaining to convex optimization, and is certainly written, in large, with that in mind. But remember, it is about the theory, NOT ABOUT THE ALGORITHMS etc. You need it to gain profound knowledge on the theoretical aspects of convexity. If you need to focus on convex optimization see e.g. the book from Stephen Boyd on Convex Optimization (also available for free on his website).

[Download to continue reading...](#)

Convex Analysis (Princeton Landmarks in Mathematics and Physics) Convex Analysis and Variational Problems (Classics in Applied Mathematics) Princeton Readings in Islamist Thought: Texts and Contexts from al-Banna to Bin Laden (Princeton Studies in Muslim Politics) The Princeton Field Guide to Dinosaurs: Second Edition (Princeton Field Guides) Convex and Discrete Geometry (Grundlehren der mathematischen Wissenschaften) Convex Optimization Convex Optimization Theory Complex Analysis (Princeton Lectures in Analysis, No. 2) The Solid State: An Introduction to the Physics of Crystals for Students of Physics, Materials Science, and Engineering (Oxford Physics Series) Boundaries and Landmarks: A Practical Manual Roadside Kansas: A Traveler's Guide to Its Geology and Landmarks Pacific Crest Trail Data Book: Mileages, Landmarks, Facilities, Resupply Data, and Essential Trail Information for the Entire Pacific Crest Trail, from Mexico to Canada Landmarks in Humanities Nassau's Historic Landmarks Landmarks in Humanities Second Edition Landmarks in Organo-Transition Metal Chemistry: A Personal View (Profiles in Inorganic Chemistry) Quantum Fluctuations (Princeton Series in Physics) Curvature in Mathematics and Physics (Dover Books on Mathematics) Robust Optimization (Princeton Series in Applied Mathematics) The Princeton Companion to Mathematics

[Dmca](#)