ANALYSIS

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ABSTRACT. This book is a course in real analysis that begins with the usual measure theory yet brings the reader quickly to a level where a wider than usual range of topics can be appreciated, including some recent research. The reader is presumed to know only basic facts learned in a good course in calculus. Topics covered include L^p-spaces, rearrangement inequalities, sharp integral inequalities, distribution theory, Fourier analysis, potential theory and Sobolev spaces. To illustrate the topics, the book contains a chapter on the calculus of variations, with examples from mathematical physics, and concludes with a chapter on eigenvalue problems.

The book will be of interest to beginning graduate students of mathematics, as well as to students of the natural sciences and engineering who want to learn some of the important tools of real analysis.

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