PRINCIPLES OF ANALYSIS

The goal of this book is to provide a rigorous and detailed treatment of the essentials of measure, integration, and functional analysis at the graduate level. It is assumed that the reader has an undergraduate background in what is now traditionally called real analysis, including elementary set theory and a rigorous treatment of limits, continuity, differentiation, Riemann integration, and uniform convergence. An acquaintance with complex function theory, in particular the complex exponential function e^z and Cauchy's integral equation, is needed for a few applications. A knowledge of basic linear algebra, at least the notions of subspace, basis, and linear transformation, is also assumed.