

ZMATH 1997c.01842

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Undergraduate analysis.

Springer, New York, NY (ISBN 0-387-94841-4). 657 p. (1997).

This is a logically self-contained introduction to analysis, suitable for students who have had two years of calculus. The book centers around those properties that have to do with uniform convergence and uniform limits in the context of differentiation and integration. Topics discussed include the classical tests for convergence of series, Fourier series, polynomial approximation, the Poisson kernel, the construction of harmonic functions on the disk, ordinary differential equations, curve integrals, derivatives in vector spaces, multiple integrals, and others. One of the author's main concerns is to achieve a balance between concrete examples and general theorems, augmented by a variety of interesting exercises. Some new material has been added in this second edition, for example: a new chapter on the global version of integration of locally integrable vector fields; a brief discussion of L^1 -Cauchy sequences, introducing students to the Lebesgue integral; more material on Dirac sequences and families, including a section on the heat kernel; a more systematic discussion of orders of magnitude; and a number of new exercises. (orig)

Classification: I15