

Functional Analysis I: Book Recommendations

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1 Introductory Texts

- [1] Hans Wilhelm Alt. *Lineare Funktionalanalysis: eine anwendungsorientierte Einführung*. Springer, Berlin, 2012.
- [2] Haim Brezis. *Functional analysis, Sobolev spaces and partial differential equations*. Universitext. Springer, New York, 2011.
- [3] John B. Conway. *A course in functional analysis*, volume 96 of *Graduate Texts in Mathematics*. Springer-Verlag, New York, second edition, 1990.
- [4] Friedrich Hirzebruch and Winfried Scharlau. *Einführung in die Funktionalanalysis*, volume 296 of *B.I.-Hochschultaschenbücher [B.I. University Paperbacks]*. Bibliographisches Institut, Mannheim, 1991. Reprint of the 1971 original.
- [5] Peter D. Lax. *Functional analysis*. Pure and Applied Mathematics (New York). Wiley-Interscience [John Wiley & Sons], New York, 2002.
- [6] Gert K. Pedersen. *Analysis now*, volume 118 of *Graduate Texts in Mathematics*. Springer-Verlag, New York, 1989.
- [7] Walter Rudin. *Functional analysis*. International Series in Pure and Applied Mathematics. McGraw-Hill, Inc., New York, second edition, 1991.
- [8] Elias M. Stein and Rami Shakarchi. *Functional analysis*, volume 4 of *Princeton Lectures in Analysis*. Princeton University Press, Princeton, NJ, 2011. Introduction to further topics in analysis.
- [9] Dirk Werner. *Funktionalanalysis*. Springer-Verlag, Berlin, extended edition, 2000.
- [10] Robert J. Zimmer. *Essential results of functional analysis*. Chicago Lectures in Mathematics. University of Chicago Press, Chicago, IL, 1990.

2 More Advanced or Specialized Texts

- [11] Nelson Dunford and Jacob T. Schwartz. *Linear operators. Part I.* Wiley Classics Library. John Wiley & Sons, Inc., New York, 1988. General theory, With the assistance of William G. Bade and Robert G. Bartle, Reprint of the 1958 original, A Wiley-Interscience Publication.
- [12] Lawrence C. Evans. *Partial differential equations*, volume 19 of *Graduate Studies in Mathematics*. American Mathematical Society, Providence, RI, second edition, 2010.
- [13] A. Grothendieck. *Espaces vectoriels topologiques*. Instituto de Matemática Pura e Aplicada, Universidade de São Paulo, São Paulo, 1954.
- [14] Paul Richard Halmos. *A Hilbert space problem book*, volume 19 of *Graduate Texts in Mathematics*. Springer-Verlag, New York-Berlin, second edition, 1982. Encyclopedia of Mathematics and its Applications, 17.
- [15] Tosio Kato. *Perturbation theory for linear operators*. Classics in Mathematics. Springer-Verlag, Berlin, 1995. Reprint of the 1980 edition.
- [16] Robert E. Megginson. *An introduction to Banach space theory*, volume 183 of *Graduate Texts in Mathematics*. Springer-Verlag, New York, 1998.
- [17] Laurent Schwartz. *Théorie des distributions*. Publications de l'Institut de Mathématique de l'Université de Strasbourg, No. IX-X. Nouvelle édition, entièrement corrigée, refondue et augmentée. Hermann, Paris, 1966.
- [18] Kōsaku Yosida. *Functional analysis*. Classics in Mathematics. Springer-Verlag, Berlin, 1995. Reprint of the sixth (1980) edition.