**MA\*735 Theory of Operators**

Review of Hilbert spaces, orthonormal bases, weak convergence; Bounded operators on Hilbert spaces, adjoints of bounded operators, algebra of bounded operators; Orthogonal projections, isometric and unitary operators, finite rank and compact operators, Hilbert-Schmidt operators, selfadjoint and normal operators; Spectra of bounded operators, invariant and reducing subspaces; Spectral theorem for compact operators, polar and singular value decompositions, Schatten class operators; Spectral theorem for bounded selfadjoint and normal operators

**References:**

1. J. B. Conway, A course in Functional Analysis, 2nd Edn., Springer-Verlag, 1990.
2. J. Weidmann, Linear Operators in Hilbert Spaces, Springer-Verlag, 1980.
3. G. Helmberg, Introduction to Spectral Theory in Hilbert Space, North-Holland, 1975.
4. B. V. Limaye, Functional Analysis, 2nd edition, New Age International, New Delhi, 1996.