**MA\*717 Approximation Theory**

Best approximation in normed spaces. Tchebycheff systems. Tchebycheff--Weierstrass - Jackson - Bernstein - Zygmund-Nikolaev etc. theorems. Fourier series, Splines, Convolutions, Linear positive, Variation diminishing, Simultaneous etc. approximations. Direct-inverse-saturation theorems. Applications.

**References:**

1. H. Schurz, Introduction to Approximation Theory, Lecture Notes, pp. 1-99, SIU, Carbondale, 2013
2. M J D Powell, Approximation theory and methods, 1981 (CUP, reprinted 1988)
3. E. W. Cheney, An Introduction to Approximation Theory, 2nd ed., New York: Chelsea, 1982
4. R. DeVore, G.G. Lorentz, Constructive Approximation, Springer Verlag, 1993.
5. K.G. Steffens The History of Approximation Theory: From Euler to Bernstein, Birkhauser, Boston 2006