

384M Real Analysis (2)

Riemann integral : Definition , Darboux's Theorem , Riemann Sums , fundamental theorem . uniform convergence of sequences and series of functions , Power series . Lebesgue Measure : Borel σ - algebra , outer measure , Lebesgue measurable sets , Lebesgue measure and its properties . Lebesgue integration : simple functions measurable functions , definition of integral . Monotone convergence Theorem , dominated convergence theorem , relation between Lebesgue And Riemann integral .

204 M Differential Equations

Various types of first order equations and their applications .Linear Equations of higher order . Systems of linear equations with constant Coefficients , reduction of order . Power series methods for solving Second order equations with polynomial coefficients .Fourier series , Fourier series for even and odd functions . Complex Fourier series . The Fourier integral .

140 M (Preparatory Year)

Precalculus .

