Course outline:

(i) Path Integral formulation of Quantum Field Theory

(ii) Renormalization of Gauge Theories

(iii) Renormalization group and Asymptotic Freedom

(iv) Anomalies

(v) Supersymmetry: Superfields, Non-renormalization theorem, Supersymmetry breaking

(vi) Supergravity:

The material will be collected from different books and original papers: some books which may be useful are:
P. Ramond, Quantum Field Theory; (Addison Wesley)
T. P. Cheng and L. F. Li, Gauge Theories…. (Oxford)