

PHY781 – High Energy Physics
Instructor: Joydeep Chakraborty

Topics:

1. Standard Model of Particle Physics :

gauge invariance, chiral symmetry, spontaneous symmetry breaking, Higgs mechanism, Fermion mass generation, Deep Inelastic Scattering, Precision measurements, Experimental evidences

2. Why beyond Standard Model? Possible way out !

3. Path Integral and gauge theory quantisation.

References:

1. Gauge theories in Particle physics : Aitchison and Hey (Volume I+II).
2. Classical Theory of Gauge fields: Rubakov
3. The theory of Quark and Gluon Interactions: Yndurain
4. An Introduction To Quantum Field Theory : Peskin and Schroeder