Fall 2018

1	Course code	PHY 655/461
2	Course Title	Quantum Field Theory
3	Credits	3/4
4	Course Coordinator & participating faculty(if any)	Arun Thalapillil
5	Nature of Course	L&T- Lectures & Tutorials
6	Pre requisites(if any)	Classical Mechanics (PHY 311) Quantum Mechanics II (PHY 322)
7	Objectives & Outcomes (goals, students for whom offered, outcomes etc)	This will be a basic course in the techniques of quantum field theory. Among its aims will be to introduce the canonical quantisation formalism for scalars, fermions and gauge fields. The primary audience is intended to be students in high energy physics and condensed matter physics, where the techniques of quantum field theory find application.
8	Course contents	Classical field theory, Symmetry principles, Second Quantization, Scalar fields, Dirac fields, Electromagnetic fields, Interactions, Applications.
9	Evaluation / assessment	a. Quiz 40 % b. Mid-sem examination 30% c. End-sem examination 30%
10	Suggested readings	1. "Quantum Field Theory", Mark Srednicki, Cambridge University Press; 1 edition (2007) 2. "Quantum Field Theory & the Standard Model", Matthew D. Schwartz, Cambridge University Press (2014) 3. "Condensed Matter Field Theory", Alexander Altland & Ben Simons, Cambridge University Press (2010)

Office hours : Mondays, 3- 4 PM