

Preliminary Schedule of "Introduction to Experimental Particle Physics" (171.731/171.408)

	Mon	Tue	Wed
1	Jan.22, 2007 Intro, scale, cosmology	Jan.23 relativistic kinematics and QM	Jan.24 spin and helicity; quarks and leptons; baryons
2	Jan.29 mesons; unstable particles	Jan.30 interactions; Feynman diagrams; QED and QCD	Jan.31 weak interactions and beyond
3	Feb.5 discoveries of the 20th century cosmic rays and radioactivity	Feb.6 acceleration of particles	Feb.7 accelerator complexes e^+e^- cross-section
4	Feb.12 interaction with matter	Feb.13 electro-magnetic shower	Feb.14 position detectors
5	Feb.19 silicon detectors; shower detectors	Feb.20 calorimeters; particle ID	Feb.21 fundamental symmetries
6	Feb.26 parity and charge conjugate	Feb.27 flavor symmetry	Feb.28 CP violation
7	Mar.5 quarks in hadron: quarkonium	Mar.6 quarkonium potential; heavy flavor mesons	Mar.7 – MIDTERM EXAM –
8	Mar.12 – spring break – no class	Mar.13 – spring break – no class	Mar.14 – spring break – no class
9	Mar.19 quarks in hadrons: baryons	Mar.20 magnetic moment proton structure	Mar.21 partons in hadrons
10	Mar.26 QCD potential at large distance	Mar.27 anomalous magnetic moment coupling constants	Mar.28 weak interaction
11	Apr.2 Paper PRESENTATIONS	Apr.3 parity violation Fermi theory	Apr.4 CKM quark-mixing
12	Apr.9 Paper PRESENTATIONS	Apr.10 Constraints on CKM	Apr.11 neutrino physics
13	Apr.16 Paper PRESENTATIONS	Apr.17 neutrinos experiments	Apr.18 EW Lagrangian
14	Apr.23 Higgs mechanism	Apr.24 beyond the Standard Model	Apr.25 selected topics
15	Apr.30 – reading period – no class	May 1 – reading period – no class	May 2 – reading period – no class FINAL on May 4 →