

## Introduction to Experimental Particle Physics (171.731/171.408) 3–4:15pm, Mon/Wed, Bloomberg 361

	Mon	Wed	Fri
1	Jan.28, 2008 intro, overview relativistic mechanics	Jan.30 QM, spin, quarks and leptons baryons and mesons	
2	Feb.4 unstable particles, interactions Feynman diagrams, QED	Feb.6 QCD, weak inter., conservation laws, Higgs, New Physics	
3	Feb.11 experiments, cosmic rays, isotopes history of discoveries, accelerator	Feb.13 accelerators cross-sections	Feb.15 interaction with matter Coulomb scattering
4	Feb.18 photon interactions, showers position detectors	Feb.20 silicon detectors calorimeters, particle ID	Feb.22 modern detectors fundamental symmetries
5	Feb.25 (moved to Feb.15) – no class –	Feb.27 (moved to Feb.22) – no class –	
6	Mar.3 Parity and Charge conjugation Flavor symmetry, SU(2), SU(3)	Mar.5 isospin in strong decays CP-violation	
7	Mar.10 quarks in hadrons quarkonium potential	Mar.12 MIDTERM	
8	Mar.17 – no class –	Mar.19 – no class –	
9	Mar.24 other meson states baryons	Mar.26 magnetic moments proton structure, partons	
10	Mar.31 partons, QCD potential anomalous magnetic moment	Apr.2 coupling constants weak interactions	
11	Apr.7 PRESENTATIONS	Apr.9 parity violation Fermi theory, CKM	
12	Apr.14 PRESENTATIONS	Apr.16 CKM and constraints neutrinos	
13	Apr.21 PRESENTATIONS	Apr.23 neutrino physics and experiments	
14	Apr.28 EW Lagrangian Higgs	Apr.30 Higgs mechanism New Physics, conclusion	
15	May 5-9 – reading period –		
16	May 12 – reading period –	May 14 FINAL 9-12 Noon	