

PHYS 453: Nuclear & Particle Physics

Syllabus

March 30, 2012

Instructor: Ceyhun Bulutay, SA 220, x2511

Lectures: Wed: 13⁴⁰-15³⁰ and Fri: 15⁴⁰-17³⁰, in SAZ-19

Office Hours: Anytime, e-mail appointment appreciated (bulutay@fen.bilkent.edu.tr)

Textbook (Theoretical Part): David Griffiths, *Introduction to Elementary Particles* (Wiley, Second Edition, 2008)

Lecture Notes: Hand written lecture notes will be posted at regular intervals.

Prerequisites: Undergraduate Quantum Mechanics-II and Electromagnetics-II

Assignments: There will be reading and problems assignments. The HW will be graded.

Grading (tentative): Midterms (15+20%), Final (25%), HW+Quiz (20%), Term Paper (20%)

Week	Subject [TP: Theoretical Part, PP: Popular Part]
#1	[TP→ Relativistic Kinematics
#2	Relativistic Kinematics (Cont'd)
#3	Angular Momentum
#4	Decays & Scatterings
#5	Feynman Calculus & <i>First Midterm</i>
#6	Feynman Calculus (Cont'd)
#7	Dirac Equation
#8	Quantum Electrodynamics
#9	Quantum Electrodynamics (Cont'd)
#10	Neutrino Oscillations ←TP] & <i>Second Midterm</i>
#11	[PP→ Nuclear Physics
#12	Applications of Nuclear Physics
#13	Particle Physics
#14	Particle Physics (Cont'd) ←PP]