PHY 7060 Syllabus
Gil Paz Winter 2012

Lecturer:

Prof. Gil Paz, Room 360 Physics Building

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Lecture Time:

Monday, Wednesday, Friday 1:55 pm - 2:50 pm, Room 185 Physics Building

Suggested Texts:

David Griffiths, Introduction to Elementary Particles (Wiley; 2nd edition)

F. Halzen and A. D. Martin, Quarks and Leptons (Wiley; 1st edition)

Office Hours:

Any time by appointment.

Grading:

- Homework (70% of the total grade). Weekly assignments will be handed each Wednesday. They must be handed back after two weeks in the Wednesday lecture. The deadline is *firm*. Late homework will not be accepted. You should submit 80% of the homework to get a passing grade.
- Final project (30% of the total grade). The final project will consist of a short paper $\approx$ 5 pages + 20 minutes talk at the end of the semester. You can choose your own topic, after confirming with me, or choose from a list of topics I will suggest. You should decide on the topic of the final project by the end of spring break, i.e. Monday, March 19 2012.

Grade: The grade scale is as follows:

Letter grade	**Score**	**Letter grade**	**Score**
A	91-100	B−	70-74
A−	85-90	C+	65-69
B+	80-84	C	60-64
B	75-79	F	< 60

Topics:

We will largely follow Griffiths's textbook

- Introduction (Introduction, chapter 1)
- Elementary particle dynamics (chapter 2)
- Symmetries (chapter 4)
- Bound States (chapter 5)
- Relativistic kinematics (chapter 3)
- Feynman calculus (chapter 6)
- QED (chapter 7)
- QCD (chapter 8)
- Weak interaction (chapter 9)
- Gauge theories (chapter 10)
- Neutrino Oscillations (chapter 11)
- Beyond the standard model (chapter 12)