Physics 129a: Introduction to Particle Physics

Instructor: Prof. Marjorie Shapiro

Class Hours: Mon, Wed and Fri 12-1 in 385 LeConte

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Course Description:

This class provides an introduction to particle physics. Topics include: overview of detectors and accelerators, quark model spectroscopy, weak decays, e^+e^- annihilation, parton model, neutrino oscillations, and physics beyond the Standard Model.

Prerequisites:

Physics 137ab (137b may be taken concurrently).

Requirements:

Problem sets will be distributed in class every Wed and are due in class on the next Wed. There will be two midterm exams, tentatively scheduled for Wed Oct 3 and Wed Nov 14, and a final exam. The final exam group is 17.

The class is graded out of a total of 500 points. Points are assigned as follows:

Homework:	140 points
Midterm # 1:	90 points
Midterm # 2:	90 points
Final:	180 points
Total:	500 points

(over)

References:

The required text for the class is Donald H. Perkins, *Introduction to High Energy Physics*, 4th addition,Cambridge University Press. The following are also useful references:

- Cahn and Goldhaber, *Experimental Techniques in High Energy Physics*, Cambridge University Press.
- David Griffiths *Introduction to Elementrary Particles*, John Wiley & Sons.
- Particle Data Group, *Review of Particle Physics.* Available online at www-pdg.lbl.gov/.

In addition, students will be expected to study topics of current interest by reading papers and articles posted on the Web.