**PHYSICS 221 A SYLLABUS**

**FALL 2015**

 Subject Weeks Weeks (cum)

 1) Dee[ Inelastic Scattering 2.0 2.0

 2) Weak Interactions and the Standard Model 4.0 6.0

 3) Neutrino Physics 1.0 7.0

 4) Quantum Chromodynamics 2.0 9.0

 5) Supersymmetry 1.0 10.0

There will be four written homework sets, associated with modules

1), 2-3), 4) and 5). These may be done collaboratively.

**Course Web Site:**

http://scipp.ucsc.edu/~schumm/ph221/Physics\_221B.html

**Resources:**

Burcham and Jobes, Nuclear and Particle Physics

Halzen and Martin, Quarks and Leptons

 Classic treatise on particle physics; somewhat terse

Aitchison and Hey, Gauge Theories in Particle Physics

 The best I've found on the topic.

Particle Data Group Review

 Excellent reference resource for everything, especially modules 3) and 4).

Cahn and Goldhaber, The Experimental Foundations of Particle Physics

 Shows and discusses the seminal papers. Unique among texts, and

 valuable.

Schumm, Deep Down Things

 You might be surprised how a non-mathematical treatment can cement

 certain concepts.