

Abstract Submitted
for the TSS09 Meeting of
The American Physical Society

Advanced Physics Lab at TCU C.A. QUARLES, Texas Christian University — The one semester, one credit hour Modern Physics Lab is viewed as a transition between the structured Physics 1 and 2 labs and junior/senior research. The labs focus on a variety of experiments built around a multichannel analyzer, various alpha, beta and gamma ray detectors and weak radioactive sources. Experiments include radiation safety and detection with a Geiger counter and NaI detector, gamma ray spectroscopy with a germanium detector, beta spectrum, alpha energy loss, gamma ray absorption, Compton effect, nuclear and positron annihilation lifetime, speed of gamma rays. Other experiments include using the analog oscilloscope, x-ray diffraction of diamond and using an SEM/EDX. Error analysis is emphasized throughout. The semester ends with an individual project, often an extension of one of the earlier experiments, and students present their results as a paper and an APS style presentation to the department.

Carroll Quarles
Texas Christian University

Date submitted: 17 Mar 2009

Electronic form version 1.4