

will be granted. Attendance and note-taking is a crucial way to obtain material in lecture which is not covered evenly by the texts.

Book Report: The book report is designed to provide an opportunity to explore in more detail one aspect of the scope of the course. The book must be chosen from the list below.

"In Search of Schrodinger's Cat", J. Gribbin

"The Quantum World", Polkinghorne

"Hyperspace", M. Kaku

"The God Particle", L. Lederman

"The Matter Myth", P. Davies, J. Gribbin

"Fabric of the Cosmos", B. Greene

"Black Holes, Wormholes and Time Machines", J. Al-Khalili

"The New World of Mr. Tompkins", G. Gamow

The report is expected to be no less than 8 typed pages. Halfway thru the semester, the first half of the report is due for comments. A late mid-term submission will result in the report final grade being lowered by 10%. The final report is due on the last day of class, no late final submissions will be accepted.

Labs: The lab will consist of a combination of measurements, simulations and demonstrations relevant to modern physics topics. Lab reports for each lab will be due the Monday lecture following each lab. Your report will consist of a brief abstract, data tables, responses to questions, error analysis, and a conclusion. It is important that you acquire, and demonstrate thru your lab report, an understanding of the measurements being made and sources of uncertainties in your measurements. There are no make-up labs.

PHYSICS 1301 SCHEDULE, SPRING 2006

Week	Topic	Reading Assignments
Jan 17	Introduction	Rohrlich 1-48
Jan 23	Problems with Light Lab: Measurement and Error 1	Rohrlich 121-133
Jan 30	Quantum Mechanics Lab: Measurement and Error 2	Ferris 86-115; Rohrlich 134-189
Feb 6	Atomic Structure Lab: Probability	Ferris 50-55
Feb 13	Sub-nuclear Realm	Ferris 38-44, 80-85
Feb 20	Particle Spectrum Lab: Diffraction and Spectra 1	
Feb 27	Fundamental Interactions Lab: Diffraction and Spectra 2	
Mar 6	More Problems with Light Lab: Speed of Light; Test 1 Mon.; Book Report draft due Fri.	Rohrlich 49-52
Mar 13	Spring Break	
Mar 20	Special Relativity Lab: Special Relativity 1	Ferris 56-59; Rohrlich 49-88
Mar 27	General Relativity Lab: Special Relativity 2	Ferris 194-202, 346-359; Rohrlich 89-110
Apr 3	Stellar Collapse Lab: Bohr Atom 1	Ferris 203-240, 272-291
Apr 10	The Cosmos Lab: Bohr Atom 2; Test 2 Mon.	Ferris 170-183, 292-334, 360-364
Apr 17	In the beginning Lab: Radioactivity	Ferris 395-430
Apr 24	The Dark Lab: Cosmic Rays	Ferris 116-146
May 1	Review, Book Reports due	
May 10	Final Exam 3pm-6pm	— —