

SYLLABUS
PHYSICS 341
INTRODUCTION TO MODERN PHYSICS
PLAN II
Spring 2008

Week of :	Topic
January 14:	Basis of Physics Range of Interest Use of Mathematics Measurement
January 21:	Dimensions Dimensional Analysis Least Time
January 28:	Rays Fresnel Theory Phasors Interference Field Theory Action at a distance
February 4:	$F=ma$ Actions Symmetries and Invariances Space Time Symmetries Momentum and Energy
February 11:	Galilean Invariance Equivalent Observers The Speed of Light
February 18:	Special Relativity Kinematics Coordinates
February 25:	Test 1 Thursday, February 21 Events, World Lines, and Intervals Paradoxes Uniform Acceleration
March 3:	Mass Dynamics Energy

March 10: Spring Break
March 17: Equivalence Principal
Geometry
Curved Space Time
Motion in Space Time
March 24: Schwarzschild Solution
Black Holes
Cosmology
The Big Bang
Inflation
March 31: Black Body Radiation
Photo-electric effect
Double Slit Experiment
Path Integration
April 7: Superposition
Wave Functions
Uncertainty Principle
Test 2 Thursday, April 10
April 14: Harmonic Oscillator
Two level system
Polarization
April 21: Incompatible Measurements
Einstein Podolski Rosen Experiment
Bell's Theorem
Schroedinger's Cat
April 28: Relativistic Quantum Mechanics
Identical Particles
Spin Statistics Theorem