Fall 2001 Course Outline

1. Special Relativity
2. The Equivalence Principle
3. Space and Spacetime Curvature
4. Tensors in Curved Spacetime
5. Einstein Field Equations
6. Tests of General Relativity
7. Black Holes
8. Gravitational Radiation
9. Early Universe Cosmology
10. Gravity and Extra Dimensions

Course Requirements

The basic course requirements consist of regular problem sets (40%), a take-home midterm exam (25%) and an in-class (open book/open notes) final exam (35%) [percentage of the course grade indicated in parentheses]. Prerequisites for the course are: Physics 114B, 105 and 110B or equivalent. No prior knowledge of differential geometry is required.