Physics 130 Syllabus General Relativity Fall 2008

Week	Readings	Topics
01	WSR 1-3	Relativity in Classical Mechanics; Maxwell's Theory; Light Propagation
02	WSR 4-6	Special Relativity; Minkowski Space; Relative Motion
03	WSR 7-9	Relativistic Collisions; Relativistic Electrodynamics; Tensors and Isometries
04	W 1-4	Particle on 2 Dimensional Surface; Curvilinear Coordinates Systems
05	W 5-6	Tensor Analysis; Special Relativity
06	WGR 1-3	Newtonian Gravity; Inertial Coordinates; Energy-Momentum Tensors
07	WGR 4-5	Curved Space-Time; Tensor calculus
08	W 7 WGR 6-7	General Relativity; Einstein's Equation; Spherical Symmetry
09	W 8-9 WGR 8	Procession of Perihelion; Gravitational Redshift; Schwarzschild Orbits
10	W 10 WGR 9-10	Neutron Stars; Black Holes; Rotating Bodies
11	WGR 11 W 12	Gravitational Radiation and Waves
12	W 11 WGR 12	Cosmology; Redshift; Horizons
13	W 13	Cosmological Constant; Scalar Field; Inflation

Books:

WSR = Woodhouse - Special Relativity
WGR = Woodhouse - General Relativity
W = Walecka - General Relativity