

General Relativity and Cosmology (PHY660)

Instructor: Pankaj Jain

Lectures: TWF 10-11 AM, T 208

Course Content:

Introduction to General Relativity, energy-momentum tensor and Einstein's equations, Schwarzschild metric, Introduction to Cosmology, the cosmological principle, FRW metric, thermal evolution of the universe, the Boltzmann equation, metric and density perturbations, inflation, inhomogeneities and anisotropies in the universe, Gravitational lensing

Books:

1. Gravitation and Cosmology, S. Weinberg
2. Modern Cosmology, S. Dodelson
3. Structure Formation in the Universe, T. Padmanabhan
4. The Early Universe, E. W. Kolb and M. S. Turner

Mark distribution:

Attendance: 40

Mid Sem I: 40

Mid Sem II: 40

Final: 120

Attendance is compulsory. If the attendance is below 70%, you will be awarded zero in attendance. Else the marks will be directly proportional to the attendance beyond 70%.

Pankaj Jain