

MATH 426Y / 1700Y References:

Required Text:

** R Wald. *General Relativity*. University of Chicago Press 1984.

Strongly recommended:

* K Thorne. *Black Holes & Time Warps: Einstein's Outrageous Legacy*. Norton 1994. (Brilliant popular account. Gripping bedtime reading. Treats sophisticated topics without equations. Will be used as a source for projects.) (Other popular accounts exist by B Greene, S Hawking, G Smoot).

Standard Graduate Physics Texts:

S Hawking & G Ellis. *Large Scale Structure of Spacetime*. Springer 1977.

C Misner, K Thorne & J Wheeler. *Gravitation*. Freeman 1973, 1997.

* B Schutz. *A First Course in General Relativity*. Cambridge University Press 1985, 1990.

S Weinberg. *Gravitation and Cosmology. Principles and Applications of the General Theory of Relativity*. Wiley 1972.

Less standard: Dirac, Eddington, Landau&Lifshitz, Pauli, Synge, Thirring.

More Mathematical Texts:

F DeFelice & CJS Clarke. *Relativity on Curved Manifolds*. Cambridge University Press 1990.

B O'Neill. *The Geometry of Kerr Black Holes*. AK Peters 1995.

Sachs & Wu. *General Relativity for the Mathematician*. Springer 1977.

N Straumann. *General Relativity and Relativistic Astrophysics*. Springer-Verlag 1984.

Differential Geometry Sources:

S Gallot, D Hulin & J LaFontaine. *Riemannian Geometry*. Springer 1990.

S Kobayashi & K Nomizu. *Foundations of Differential Geometry*. Vols 1-2. Wiley 1963, 1996.

* J Milnor. *Morse Theory*. Princeton University Press 1963, 1969.

B O'Neill. *Semi-Riemannian Geometry (with applications to Relativity)*. Academic Press 1983.

M Spivak. *A Comprehensive Introduction to Differential Geometry*. Vols 1-5. Publish or Perish, 1970, 1979.

Problem Source:

* A Lightman, W Press, R Price & S Teukolsky. *Problem Book in Relativity and Gravitation*. Princeton University Press 1975.