

MATH 426H / 1700H References:

Required Texts:

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

** B Schutz. *A First Course in General Relativity*. Cambridge University Press 1985. Or second ed. 2009 (online in UofT library). Or third ed. 2022.

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. May be used as a source for projects.)
(Other popular accounts exist by B Greene, S Hawking, G Smoot).

Standard Graduate Physics Texts:

* S Carroll. *Spacetime and Geometry: An introduction to General Relativity*. Cambridge 2019.

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

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

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

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

More Mathematical Texts:

* JK Beem, PE Ehrlich & KL Easley. *Global Lorentzian Geometry*, 2nd ed. Chapman & Hall, 1996.

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

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

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.