**MATH 8803A Sources for Background and Further Reading:**

**Optimal Transportation**:

*Villani. *Topics in Mass Transportation.* Lecture notes from last year.

Rachev and Rüschendorf. *Mass transportation problems. Theory and Applications.* Springer-Verlag, 1998. (statistics).

Beckmann and Puu. *Spatial Economics: Density, Potential, and Flow*, North-Holland / Elsevier 1985. (economics)

**Measure Theory and Integration**:

Rudin. *Real and Complex Analysis. 3rd ed.* McGraw- Hill 1987, 1966.

Royden. *Real Analysis. 3rd ed.* McMillan Publishing Co., 1988, 1963.

Lieb and Loss. *Analysis.* American Mathematical Society 1997.

**Functional Analysis**:

Reed and Simon. *Functional Analysis* (volume 1 of Methods of Modern Mathematical Physics; Revised and Enlarged Edition). Academic Press 1980.

Rudin. *Functional Analysis.* McGraw-Hill 1973.

Adams. *Sobolev Spaces.* Academic Press 1975. (for Legendre transforms!)

**Partial Differential Equations**:

* Evans. *Partial Differential Equations.* American Math Society 1998.

**Linear Programming**:

* Anderson and Nash. *Linear Programming in Infinite-Dimensional Spaces. Theory and applications.* Wiley 1987. (especially chapter on tranportation)

Brickman. *Mathematical Introduction to Linear Programming and Game Theory.* Springer-Verlag 1989. (elementary introduction)

**Convex Analysis**:

van Tiel. *Convex analysis. An Introductory Text.* Wiley 1984

Ekeland and Teman. *Convex analysis and variational problems.* SIAM 1999.

Rockafellar. *Convex Analysis.* Princeton University Press 1972.

Schneider. *Convex bodies: the Brunn-Minkowski Theory* Cambridge University Press 1993.

**Geometric Analysis**:

* Giusti. *Minimal Surfaces and Functions of Bounded Variation.* Birkhäuser 1984.

Morgan. *Geometric Measure Theory. A Beginner's Guide.* Academic Press 1995.

Evans and Gariepy. *Measure Theory and Fine Properties of Functions.* CRC Press 1992.

**Riemannian Geometry**:

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

Gallot, Hulin and Lafontaine. *Riemannian Geometry.* Springer-Verlag 1993.

Ballmann, Gromov, and Schroeder. *Manifolds of Nonpositive Curvature.* Birkhuser Boston 1985.

**Complex Analysis**:

Krantz. *Complex analysis : the geometric viewpoint.* Washington, 1990.

Ahlfors. *Complex analysis : an introduction to the theory of analytic functions of one complex variable.* 3d ed. McGraw-Hill, 1979.