

PMATH 950: Topics in Analysis,
Interplay between geometric and
functional inequalities
Winter 2027

Professor: TBA

Email:

Course Description: The course is intended for graduate students interested in convex geometry, geometric functional analysis, analysis, and probability. It studies the interplay between geometric inequalities and their functional and analytic counterparts, with particular emphasis on the proof methods that connect these different viewpoints. The inequalities serve as a framework for introducing several important techniques in modern analysis, including symmetrization, optimal transport, decompositions of the identity, variational arguments, integration by parts, tensorization and heat-flow arguments.