

Titre: **Convex geometry**

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Nombre d'heures: 5

Abstract:

In this course we will focus on the study of compact convex sets (convex bodies) of the n -dimensional Euclidean space $\mathbb{R}^n$.

The aim is to provide tools to identify and characterize solutions of shape optimization problems in various classes of convex bodies. We will also analyze classical geometric inequalities like the Brunn-Minkowski inequality for the volume as and its extensions to classical functionals in the Calculus of Variations. We will describe how these inequalities can be exploited to approach shape optimization problems with convexity constraints.

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