Optimization with applications II

14M193 | *Bart Vandereycken*

Heures (Hebdo)	4.0
Cours	2.0
Exercices	2.0
Pratique	0.0
Total	56.0

Langue	anglais
Semestre	Printemps
Mode d'évaluation	Examen oral
Session	Juillet
Format de l'enseignment	Cours, exercices

Cursus	Type	ECTS
Maîtrise universitaire en mathématiques	N/A	6.0
Maîtrise universitaire en mathématiques, informatique et sciences numériques	N/A	6.0
Baccalauréat universitaire en mathématiques, informatique et sciences numériques	N/A	6.0
Master of Science in Statistics	N/A	5.0
Baccalauréat universitaire en mathématiques	N/A	6.0

Objectifs

Description

The aim is to recognize and solve convex optimization problems. We cover a basic introduction to convex analysis, sets and functions. Theory also includes optimality conditions and duality, and theorems of alternative. We treat applications that lead to convex optimization problems in machine learning, statistics, signal processing, control, and finance. Specialised numerical algorithms include interior point methods and sub-gradient methods.