

# MATH 463. CONVEX OPTIMIZATION.

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Credits: 3

Offered by: Mathematics and Statistics (Faculty of Science)

This course is not offered this catalogue year.

## Description

Introduction to convex analysis and convex optimization: Convex sets and functions, subdifferential calculus, conjugate functions, Fenchel duality, proximal calculus. Subgradient methods, proximal-based methods. Conditional gradient method, ADMM. Applications including data classification, network-flow problems, image processing, convex feasibility problems, DC optimization, sparse optimization, and compressed sensing.

- Prerequisites: MATH 223 or MATH 247 or MATH 236 or MATH 251. MATH 248 or MATH 314 or MATH 358. MATH 243 or MATH 255. COMP 202 or COMP 204 or COMP 208 or equivalent.
- Restriction: Not open to students who have taken or are taking MATH 563.

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