Dynamic Schedule: Visit **Minerva Class Schedule (https://horizon.mcgill.ca/pban1/bwckschd.p_disp_dyn_sched)** for *course dates & times.*

MATH 463 Convex Optimization (3 credits)

Offered by: Mathematics and Statistics (Faculty of Science (/study/2022-2023/faculties/science))

Overview

Mathematics & Statistics (Sci) : 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.

Terms: Winter 2023

Instructors: Paquette, Courtney (Winter)

- Prerequisites: MATH 223 (/study/2022-2023/courses/math-223) or MATH 247 (/study/2022-2023/courses/math-247) or MATH 236 (/study/2022-2023/courses/math-236) or MATH 251 (/study/2022-2023/courses/math-251). MATH 248 (/study/2022-2023/courses/math-248) or MATH 314 (/study/2022-2023/courses/math-314) or MATH 358 (/study/2022-2023/courses/math-358). MATH 243 (/study/2022-2023/courses/math-243) or MATH 255 (/study/2022-2023/courses/math-255). COMP 202 (/study/2022-2023/courses/comp-202) or COMP 204 (/study/2022-2023/courses/comp-204) or COMP 208 (/study/2022-2023/courses/comp-208) or equivalent.
- Restriction: Not open to students who have taken or are taking MATH 563 (/study/2022-2023/courses/math-563).

This course may be used as a required or complementary course in the following programs:

Bachelor of Arts (B.A.) - Supplementary Minor Concentration in Mathematics (https://www.mcgill.ca/study/2022-2023/faculties/arts/undergraduate/programs/bachelor-arts-ba-supplementary-minor-concentration-mathematics)

Bachelor of Arts (B.A.) - Supplementary Minor Concentration Statistics (https://www.mcgill.ca/study/2022-2023/faculties/arts/undergraduate/programs/bachelor-arts-ba-supplementary-minor-concentration-statistics)

Bachelor of Arts (B.A.) - Supplementary Minor Concentration Statistics (https://www.mcgill.ca/study/2022-2023/faculties/basc/undergrad

uate/programs/bachelor-arts-ba-supplementary-minor-concentration-statistics)

Bachelor of Engineering (B.Eng.) - Minor Mathematics (https://www.mcgill.ca/study/2022-2023/faculties/engineering/undergraduate/programs/bachelor-engineering-beng-minor-mathematics)

Bachelor of Science (B.Sc.) - Honours Mathematics (https://www.mcgill.ca/study/2022-2023/faculties/science/undergraduate/programs/bachelor-science-bsc-honours-mathematics)

Bachelor of Science (B.Sc.) - Honours Mathematics (https://www.mcgill.ca/study/2022-2023/faculties/arts/undergraduate/programs/bachelor-science-bsc-honours-mathematics)

Bachelor of Science (B.Sc.) - Liberal Program - Core Science Component Mathematics (https://www.mcgill.ca/study/2022-2023/faculties/science/undergraduate/programs/bachelor-science-bsc-liberal-program-core-science-component-mathematics)

Bachelor of Science (B.Sc.) - Liberal Program - Core Science Component Statistics (https://www.mcgill.ca/study/2022-2023/faculties/science/undergraduate/programs/bachelor-science-bsc-liberal-program-core-science-component-statistics)

Bachelor of Science (B.Sc.) - Major Mathematics (https://www.mcgill.ca/study/2022-2023/faculties/science/undergraduate/programs/bachelor-science-bsc-major-mathematics)

Bachelor of Science (B.Sc.) - Major Statistics (https://www.mcgill.ca/study/2022-2023/faculties/science/undergraduate/programs/bachelor-science-bsc-major-statistics)

Visit *Minerva Class Schedule* for **course dates & times**

Class Schedule (https://horizon.mcgill.ca/pban1/bwckschd.p_disp_dyn_sched

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