

**Dynamic Schedule:** Visit [Minerva Class Schedule](#)[https://horizon.mcgill.ca/pban1/bwckschd.p\\_disp\\_dyn\\_sched](https://horizon.mcgill.ca/pban1/bwckschd.p_disp_dyn_sched) for course dates & times.McGill.ca (<https://www.mcgill.ca>) / Overview (/study/2022-2023/) / All Courses (/study/2022-2023/courses/search)

# MATH 556 Mathematical Statistics 1 (4 credits)

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

## Overview

Mathematics & Statistics (Sci) : Distribution theory, stochastic models and multivariate transformations. Families of distributions including location-scale families, exponential families, convolution families, exponential dispersion models and hierarchical models. Concentration inequalities. Characteristic functions. Convergence in probability, almost surely, in  $L_p$  and in distribution. Laws of large numbers and Central Limit Theorem. Stochastic simulation.

**Terms: Fall 2022**

Instructors: Stephens, David (Fall)

- Fall
- Prerequisite: [MATH 357 \(/study/2022-2023/courses/math-357/\)](#) or equivalent

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

[Bachelor of Arts \(B.A.\) - Major Concentration Statistics \(/https://www.mcgill.ca/study/2022-2023/faculties/arts/undergraduate/programs/bachelor-arts-ba-major-concentration-statistics/\)](#)

[Bachelor of Arts \(B.A.\) - Major Concentration Statistics \(/https://www.mcgill.ca/study/2022-2023/faculties/basc/undergraduate/programs/bachelor-arts-ba-major-concentration-statistics/\)](#)

[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 \(/https://www.mcgill.ca/study/2022-2023/faculties/arts/undergraduate/programs/bachelor-arts-ba-supplementary-minor-concentration-statistics/\)](#)

22-  
2023/faculties/basc/undergraduate/programs/bachelor-arts-ba-supplementary-minor-concentration-statistics)

Bachelor of Science (B.Sc.) -  
Honours Probability and  
Statistics  
([https://www.mcgill.ca/study/2022-](https://www.mcgill.ca/study/2022-2023/faculties/science/undergraduate/programs/bachelor-science-bsc-honours-probability-and-statistics)  
[2023/faculties/science/undergraduate/programs/bachelor-science-bsc-honours-probability-and-statistics\)](https://www.mcgill.ca/study/2022-2023/faculties/science/undergraduate/programs/bachelor-science-bsc-honours-probability-and-statistics))

Bachelor of Science (B.Sc.) -  
Honours Probability and  
Statistics  
([https://www.mcgill.ca/study/2022-](https://www.mcgill.ca/study/2022-2023/faculties/arts/undergraduate/programs/bachelor-science-bsc-honours-probability-and-statistics)  
[2023/faculties/arts/undergraduate/programs/bachelor-science-bsc-honours-probability-and-statistics\)](https://www.mcgill.ca/study/2022-2023/faculties/arts/undergraduate/programs/bachelor-science-bsc-honours-probability-and-statistics))

Bachelor of Science (B.Sc.) -  
Honours Statistics and  
Computer Science  
([https://www.mcgill.ca/study/2022-](https://www.mcgill.ca/study/2022-2023/faculties/science/undergraduate/programs/bachelor-science-bsc-honours-statistics-and-computer-science)  
[2023/faculties/science/undergraduate/programs/bachelor-science-bsc-honours-statistics-and-computer-science\)](https://www.mcgill.ca/study/2022-2023/faculties/science/undergraduate/programs/bachelor-science-bsc-honours-statistics-and-computer-science))

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

Bachelor of Science (B.Sc.) -  
Minor Statistics  
([https://www.mcgill.ca/study/2022-](https://www.mcgill.ca/study/2022-2023/faculties/science/undergraduate/programs/bachelor-science-bsc-minor-statistics)  
[2023/faculties/science/undergraduate/programs/bachelor-science-bsc-minor-statistics\)](https://www.mcgill.ca/study/2022-2023/faculties/science/undergraduate/programs/bachelor-science-bsc-minor-statistics))

Doctor of Philosophy (Ph.D.)  
Biostatistics  
([https://www.mcgill.ca/study/2022-](https://www.mcgill.ca/study/2022-2023/faculties/medicine/graduate/programs/doctor-philosophy-phd-biostatistics)  
[2023/faculties/medicine/graduate/programs/doctor-philosophy-phd-biostatistics\)](https://www.mcgill.ca/study/2022-2023/faculties/medicine/graduate/programs/doctor-philosophy-phd-biostatistics))

[ate/programs/doctor-philosophy-phd-biostatistics\)](#)

[Doctor of Philosophy \(Ph.D.\)  
Quantitative Life Sciences  
\(<https://www.mcgill.ca/study/2022-2023/faculties/interfaculty/graduate/programs/doctor-philosophy-phd-quantitative-life-sciences>\)](#)

[Master of Science \(M.Sc.\)  
Biostatistics \(Non-Thesis\)  
\(<https://www.mcgill.ca/study/2022-2023/faculties/medicine/graduate/programs/master-science-msc-biostatistics-non-thesis>\)](#)

[Master of Science \(M.Sc.\)  
Biostatistics \(Thesis\)  
\(<https://www.mcgill.ca/study/2022-2023/faculties/medicine/graduate/programs/master-science-msc-biostatistics-thesis>\)](#)




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

Class Schedule  
([https://horizon.mcgill.ca/pban1/bwckschd.p\\_disp\\_dyn\\_sched](https://horizon.mcgill.ca/pban1/bwckschd.p_disp_dyn_sched))

(<https://www.mcgill.ca>)

Copyright © 2023 McGill University

Accessibility (<https://www.mcgill.ca/accessibility>)

Log in  (/study/2022-2023/saml\_login?destination=node/21754)