

Valid till March 27, 2027 per approval on March 27, 2022

McGill University
Department of Mathematics and Statistics

List of accredited courses that may be used towards the A.Stat. designation

Minimum Grade Required: **B**

Mathematics Modules (3 courses)

1. Calculus I
Either of
[MATH 139 - Calculus 1 with Precalculus](#)
[MATH 140 - Calculus 1](#)
[MATH 150 - Calculus A](#)
2. Calculus II
[MATH 141 - Calculus 2](#) and
[MATH 222 Calculus 3](#)
Or
[MATH 151 - Calculus B](#)
3. Linear Algebra
Either of
[MATH 223 - Linear Algebra](#)
[MATH 236 - Algebra 2](#)
[MATH 247 - Honours Applied Linear Algebra](#)
[MATH 251 - Honours Algebra 2](#)

Statistics and Probability Modules (7 courses)

4. Mathematical statistics
[MATH 323 - Probability](#) and
[MATH 324 - Statistics](#)
Or
[MATH 356 - Honours Probability](#) and
[MATH 357 - Honours Statistics](#)
Or
[MATH 556 - Mathematical Statistics 1](#)
[MATH 557 - Mathematical Statistics 2](#)
5. Linear Regression
[ECON 468 - Econometrics 1 - Honours](#)
Or
[MATH 423 - Applied Regression](#)
Or
[MATH 533 - Regression and Analysis of Variance](#)

6. Design and Analysis of Experiments

[MATH 558 - Design of Experiments](#)

7. Survey Sampling

[MATH 525 - Sampling Theory and Applications](#)

8. Statistics Electives

Select approximately three courses from:

[MATH 308 - Fundamentals of Statistical Learning](#)

[MATH 427 - Statistical Quality Control](#)

[MATH 447 - Introduction to Stochastic Processes](#)

[MATH 547 - Stochastic Processes](#)

[MATH 671 - Applied Stochastic Processes](#)

[MATH 523 - Generalized Linear Models](#)

[MATH 524 - Nonparametric Statistics](#)

[MATH 545 - Introduction to Time Series Analysis](#)

[MATH 681 - Time Series Analysis](#)

[MATH 680 - Computation Intensive Statistics](#)

[MATH 685D1 - Statistical Consulting and](#)

[MATH 685D2 - Statistical Consulting](#)

[MATH 686 - Survival Analysis](#)

[MATH 598 - Topics in Probability and Statistics*](#)

[MATH 782 - Advanced Topics in Statistics 1*](#)

[MATH 783 - Advanced Topics in Statistics 2*](#)

The following courses may be used as **substantive area** courses if they are not taken to cover the "Statistics Electives" requirements:

[BIOS 602 - Epidemiology: Regression Models](#)

[BIOS 610 - Causal Inference in Biostatistics](#)

[BIOS 612 - Advanced Generalized Linear Models](#)

[BIOS 637 - Advanced Modeling: Survival and Other Multivariable Data](#)

[COMP 451 - Fundamentals of Machine Learning](#)

[COMP 551 - Applied Machine Learning](#)

[COMP 652 - Machine Learning](#)

[ECON 469 - Econometrics 2 - Honours](#)

[MATH 540 - Life Actuarial Mathematics](#)
[MATH 541 - Nonlife Actuarial Models](#)

Computer Skills (approximately 2 courses)

[MATH 208 - Introduction to Statistical Computing](#)

Or either of

[COMP 202 - Foundations of Programming](#)

[COMP 204 - Computer Programming for Life Sciences](#)

[COMP 208 - Computer Programming for Physical Sciences and Engineering](#)

Or

[COMP 250 - Introduction to Computer Science](#)

Or

[COMP 322 - Introduction to C++](#)

Common statistical packages are also integrated throughout the higher division statistics courses, such as MATH 423, MATH 523 or MATH 533.

Communication Skills (approximately 1 course)

[CCOM 314 - Communicating Science](#)

Or either of

[MATH 410 - Majors Project](#)

[MATH 470 - Honours Research Project](#)

Or

[BIOS 624 - Data Analysis and Report Writing](#)

Writing intensive courses are also offered by [McGill's Writing Centre](#).

Substantive Area (3 courses)

Any 3 related courses (or 2 blocks of 2 related courses) above the 300 level, in an area related to statistics (applied mathematics, actuarial science, biostatistics, epidemiology, economics, computer science and machine learning, etc). This includes courses listed as such in the "Statistics Electives" section, or courses from a minor with an application component.

The following mathematics and biostatistics courses may be used:

[BIOS 601 - Epidemiology: Introduction and statistical models](#)

[BIOS 691 - Special Topics in Biostatistics 1*](#)

[BIOS 692 - Special Topics in Biostatistics 2*](#)

[MATH 430 - Mathematical Finance](#)

[MATH 462 - Honours Mathematics of Machine Learning](#)

[MATH 562 - Theory of Machine Learning](#)

[MATH 587 - Advanced Probability I](#)

[MATH 589 - Advanced Probability II](#)

* **Note:** Students using one of the courses marked by * to cover the accreditation requirements should provide the syllabus and sample assignments and projects if necessary, as the content may vary.

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