MAJOR IN STATISTICS

Mathematics and statistics are not only powerful problem-solving tools, but also highly creative fields of studies that combine imagination with logic, and precision with intuition.

Mathematics is much more than numbers! Its basic goal is to reveal and model general patterns to help explain our world, whether they be found in electrical impulses in the human nervous system, the evolution of animal populations in their habitats, fluctuations in stock-market prices, or electronic communications. Mathematics reaches far beyond science and engineering into medicine, business and the social sciences.

Advances in mathematics and statistics lie behind many discoveries that are now part of our daily lives, such as MRI scanners, digital compression of music and video, secure electronic communications, data mining, genomic algorithms, futures pricing, and many other innovations.

The Department of Mathematics and Statistics offers Honours, majors and minors both in mathematics and in statistics. Our Honours program in statistics is accredited by the Statistical Society of Canada, allowing graduates to earn the A.Stat. professional designation. Moreover, the Department offers a joint honours program in mathematics and economics, a joint honours program in mathematics and computer science, as well as a multidisciplinary program in financial mathematics and economics. All our honours programs also include the co-operative education option.

This program is offered in English and in French.

Program Requirements

The table below includes only the discipline-specific courses. Please refer to the Academic Regulations (https://www.uottawa.ca/about-us/policies-regulations/academic-regulations/b-2-program-studies/) for information on the Honours bachelor's with double major and the Honours bachelor's with major and minor.

Co-operative education is available when taken as part of an honours degree.

The French Immersion Stream is available when taken as part of an honours degree.

Requirements for this program have been modified. Please consult the 2022-2023 calendars (http://catalogue.uottawa.ca/en/archives/) for the previous requirements.

Basic Skills

3 optional course units in English (ENG) at the 1000 or 2000 level	3 Units

Compulsory Courses

ITI 1120	Introduction to Computing I	3 Units
MAT 1320	Calculus I	3 Units
MAT 1322	Calculus II	3 Units
MAT 1341	Introduction to Linear Algebra	3 Units
MAT 1362	Mathematical Reasoning and Proofs	3 Units
MAT 2122	Multivariable Calculus	3 Units
MAT 2125	Elementary Real Analysis	3 Units
MAT 2371	Introduction to Probability	3 Units
MAT 2375	Introduction to Statistics	3 Units

MAT 3375	Regression Analysis [1]	3 Units
MAT 3378	Analysis of Experimental Designs [1]	3 Units
MAT 4379	Survey Sampling	3 Units
3 course units from:		3 Units
	MAT 2141 Honours Linear Algebra	
	MAT 2342 Introduction to Applied Linear Algebra	
12 course units from: [2]		12 Units
	MAT 3172 Foundations of Probability	
	MAT 3175 Introduction to Mathematical Statistics	
	MAT 3379 Introduction to Time Series Analysis	
	MAT 4371 Applied Probability	
	MAT 4374 Computational Statistics	
	MAT 4375 Multivariate Statistical Methods	
	MAT 4376 Topics in Statistics	
	MAT 4377 Topics in Applied Probability	
	MAT 4378 Categorical Data Analysis	
	MAT 4380 Advanced Regression	
	MAT 4381 Bayesian Inference	
	MAT 4382 Generalized Linear Models	
6 optional course units in mathematics (MAT) at the 3000 or 4000 level [3,4,5]		6 Units
Total:		**60 Units**

Note(s)

[1]

This is a required course for A.Stat. accreditation.

[2]

Courses accredited by the Statistical Society of Canada (SSC) and which may be used to satisfy the requirements for the professional title of A.Stat. from the SSC. Consult the Department of Mathematics and Statistics for more details.

[3]

The following courses are recommended for students interested in pursuing graduate studies in probability or statistics: MAT 3120, MAT 3121, MAT 3172, MAT 3175, MAT 3341.

[4]

Other courses in probability and statistics which may be of interest include: MAT 4170, MAT 4171, MAT 4372.

[5]

The course MAT 3153 cannot be counted for units if you have previously passed MAT 4153. You may however take MAT 3153 and then subsequently take MAT 4153, and count both for units.