

# MINOR 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 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 including a minor to your degree.

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

### Compulsory Courses

MAT 2342	Introduction to Applied Linear Algebra	3 Units
MAT 2371	Introduction to Probability	3 Units

### Optional Courses

One option from the following:	6 Units
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#### Option 1:

MAT 1320 Calculus I

MAT 1322 Calculus II

#### Option 2:

MAT 1330 Calculus for the Life Sciences I

MAT 1332 Calculus for the Life Sciences II

3 course units from:	3 Units
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MAT 1341 Introduction to Linear Algebra

MAT 1302 Mathematical Methods II

3 course units from:	3 Units
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MAT 2375 Introduction to Statistics

MAT 2379 Introduction to Biostatistics <sup>1</sup>

9 course units from: <sup>2</sup>	9 Units
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MAT 3172 Foundations of Probability <sup>3</sup>

MAT 3175 Introduction to Mathematical Statistics <sup>3</sup>	
MAT 3375 Regression Analysis	
MAT 3378 Analysis of Experimental Designs	
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 4379 Survey Sampling	
MAT 4380 Advanced Regression	
MAT 4381 Bayesian Inference	
MAT 4382 Generalized Linear Models	
3 optional course units in mathematics (MAT) at the 2000, 3000 or 4000 level, or from the following list:	3 Units
BIO 4158 Applied Biostatistics	
ECO 4186 Applied Econometrics <sup>3</sup>	
GEG 4120 Spatial Data Science <sup>3</sup>	
GEO 4354 Quantitative Analysis in Geology <sup>3</sup>	

**Total:** **30 Units**

### Note(s)

1

This course cannot count in a major or an Honours program in mathematics or statistics.

2

The courses in this list are accredited by the Statistical Society of Canada for the A.Stat. professional designation. Consult the Department of Mathematics and Statistics for more details.

3

These courses require prerequisites which are not part of the minor.